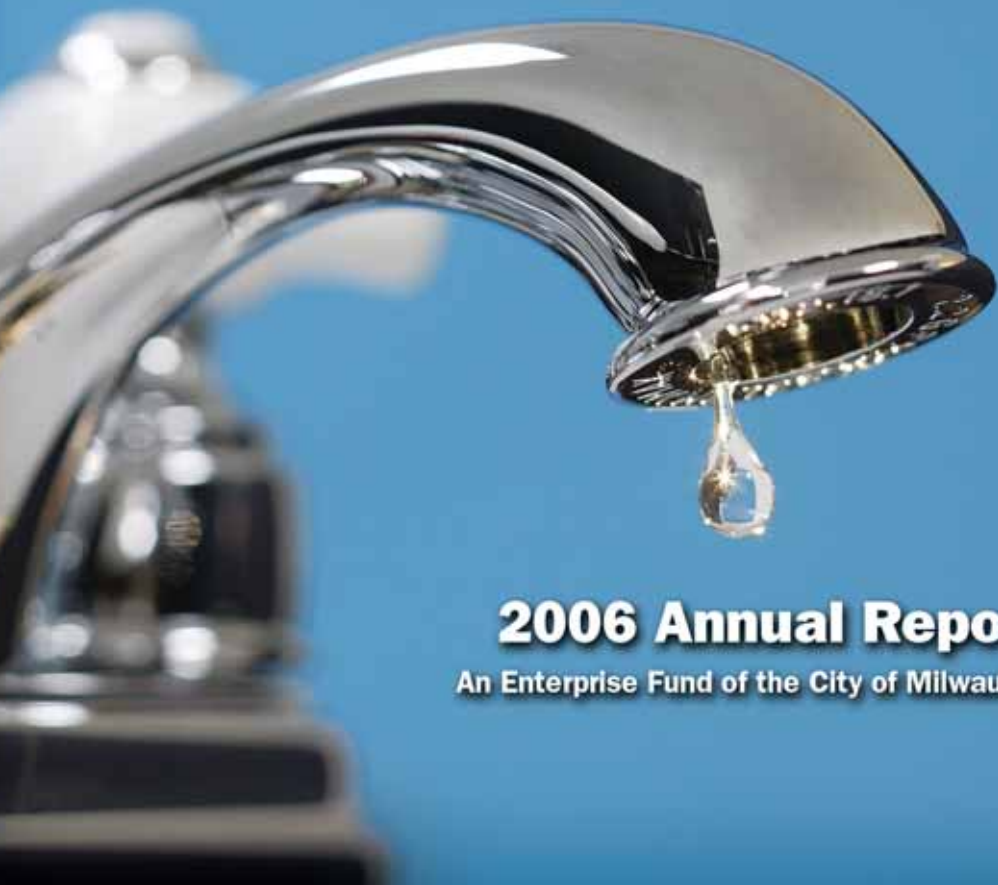


Milwaukee **Water Works**

Safe, Abundant Drinking Water.



2006 Annual Report

An Enterprise Fund of the City of Milwaukee



Mayor Tom Barrett



Jeffrey J. Mantes
Public Works
Commissioner



Carrie M. Lewis
Superintendent

Milwaukee Water Works

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Milwaukee Administration

Mayor

Tom Barrett

City Attorney

Grant F. Langley

City Comptroller

W. Martin Morics

City Treasurer

Wayne F. Whittow

Commissioner of Public Works

Jeffrey J. Mantes

Public Works Director of Operations

James P. Purko

City Engineer

Jeffrey S. Polenske

The Public Works Committee

*(until January 2006 the
committee was named Utilities
and Licenses Committee)*

Ald. Robert J. Bauman, Chair

Ald. Joseph A. Dudzik, Vice Chair

Ald. Robert W. Puente

Ald. Willie C. Wade

Ald. Terry L. Witkowski

Members of the Milwaukee Common Council

President

Willie L. Hines, Jr.
District 15

Ashanti Hamilton
District 1

Joe Davis, Sr.
District 2

Michael S. D'Amato
District 3

Robert Bauman
District 4

James A. Bohl, Jr.
District 5

Mike McGee, Jr.
District 6

Willie C. Wade
District 7

Robert G. Donovan
District 8

Robert W. Puente
District 9

Michael J. Murphy
District 10

Joseph A. Dudzik
District 11

James N. Witkowiak
District 12

Terry L. Witkowski
District 13

Tony Zielinski
District 14

To Our Customers

Excellence in water quality and customer service, infrastructure maintenance, operational efficiency, and consistent financial performance are the hallmarks of the Milwaukee Water Works, provider of high quality drinking water for Milwaukee and 15 communities in the region.

Water Quality Assured

Our top priority is delivery every day of the highest quality drinking water. The Milwaukee Water Works met U.S. Environmental Protection Agency (EPA) regulations 100% of the time in 2006. In fact, Milwaukee's drinking water is of higher quality than requirements for every EPA-monitored substance, and even those contaminants for which testing is not required are absent from Milwaukee water.

Every day, all day, Milwaukee water is essential to the life of our region. You enjoy a cool drink from the tap, wash your children's hands, and make a pot of coffee or tea. Business and industry rely on an abundant supply of high quality, pressurized water.

Sustainability and Innovation

The Milwaukee Water Works practices innovation and sustainability for the most efficient use of resources, to ensure continued delivery of safe drinking water at the lowest possible cost, and to increase the reliability of facilities to provide sufficient quantities of high quality drinking water. Planning for the systematic replacement and rehabilitation of production and delivery system infrastructure also helps insure future water supplies for our customers.

Consistent Financial Performance

The Milwaukee Water Works is managed to serve as a reliable source of revenue for the City of Milwaukee and to meet customer requirements for safe water and low-cost service. In 2006, the utility paid to the city \$7.5 million in the form of a payment in lieu of taxes (PILOT). This payment was used to directly offset the city tax levy, reducing the 2006 tax rate by \$0.25 per thousand dollars of assessed valuation. The Milwaukee Water Works pays other city departments for the municipal services it uses and for the payment of employee benefits.

Despite efforts to control costs and conserve resources, a decline in water sales, expenditures related to security at critical facilities, and escalating costs of electrical energy, natural gas, and water treatment chemicals forced a need for additional revenue. The Milwaukee Water Works, in the first of a two-step rate process, received authorization from the Public Service Commission of Wisconsin in July 2006 for a 3.4% increase for retail, wholesale, and public fire protection rates effective September 2006. The second step was initiated for an overall 6% rate increase to be effective in 2007. The previous rate increase was in 2002.

We hope you will learn more about the Milwaukee Water Works in this report, and we look forward to serving you.



Carrie M. Lewis, *Superintendent*



Milwaukee Water Works Administration

Superintendent Carrie M. Lewis

Administration and Projects Manager Laura B. Daniels

Water Quality Manager Lon A. Couillard

Water Engineering Manager Dinah G. Gant, P.E.

Water Mains Design Engineer Mark J. Scheller, P.E.

Water Business Manager Earl D. Smith, Jr.

Water Accounting Manager Menbere W. Medhin

Water Revenue Manager Richard D. Rasmussen

Water Meter Services Manager Jeffrey Novak

Linnwood Water Treatment Plant Manager Daniel Welk

Howard Avenue Water Treatment Plant Manager John Gavre

Water Distribution Manager Gary K. Gibson

Water Distribution Operations Manager David Goldapp

Water Distribution Construction Manager Ben Glatzel

The Milwaukee Water Works is a member of the American Water Works Association (AWWA), the Association of Metropolitan Water Agencies, and the American Water Works Research Foundation. Superintendent Lewis serves on the AWWA Water Utility Council and the WaterISAC Board of Managers. Many MWW employees serve as liaisons to the Wisconsin Department of Natural Resources and the Public Service Commission of Wisconsin, as well as serving in leadership roles with the Wisconsin Water Association, a 900-member organization of water professionals dedicated to continuous improvement and customer service.

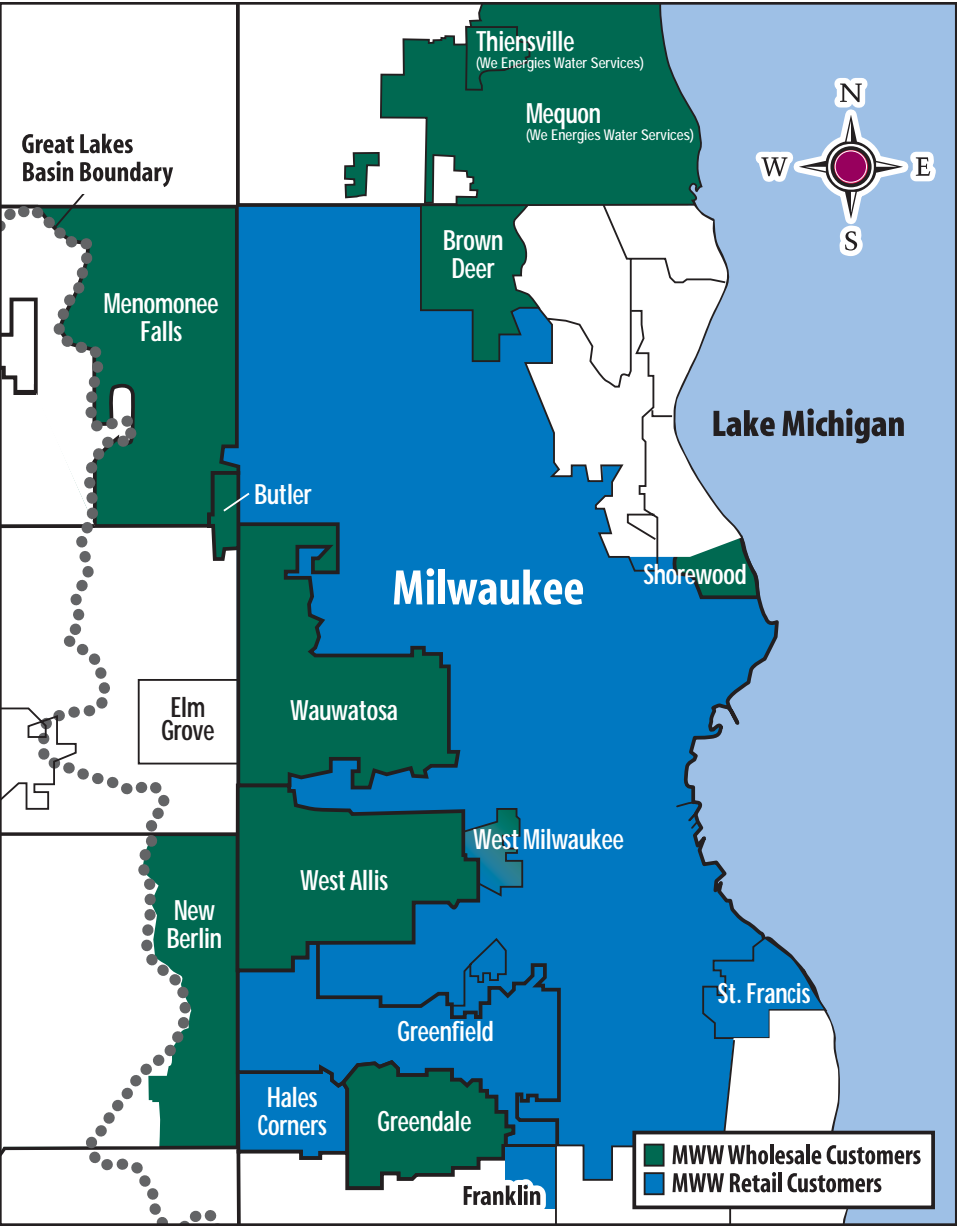
841 N. Broadway, Room 409 ■ Milwaukee, Wisconsin 53202

Customer Service Monday-Friday, 7:30 a.m. to 5:00 p.m.

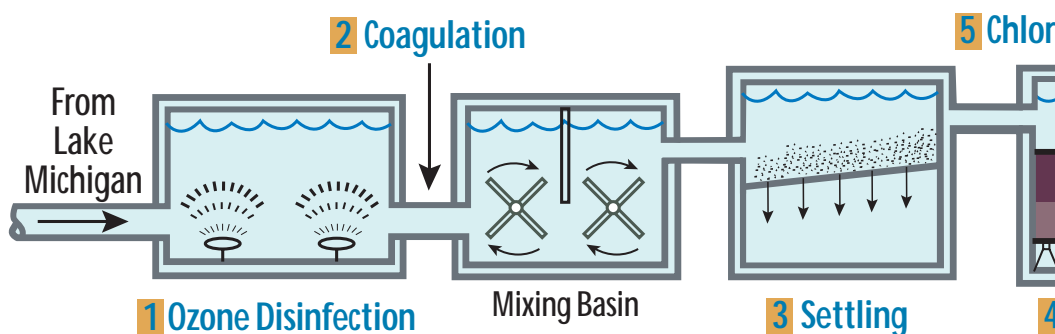
Telephone (414) 286-2830 ■ Fax (414) 286-2672 ■ TDD (414) 286-2025

24-Hour Water Control Center (414) 286-3710

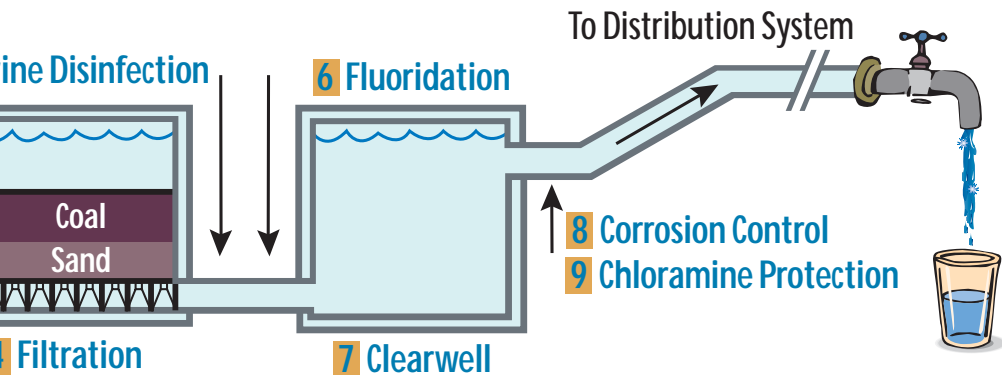
email: watwebcs@milwaukee.gov ■ web site: www.water.mpw.net



Milwaukee Water Works Drinking Water Treatment Process



- 1. Ozone Disinfection** — Ozone gas is bubbled through the incoming lake water. Ozone destroys disease-causing microorganisms including *Giardia* and *Cryptosporidium*, controls taste and odor, and reduces chlorinated disinfection byproducts.
- 2. Coagulation** — Very fine particles in the water adhere together to form larger particles as the coagulant alum is mixed into the water. Large particles are more effectively removed during the settling and filtering processes.
- 3. Settling** — Settling is the process in which solid particles settle out and are removed from the water.
- 4. Filtration** — The water is slowly filtered through 24" of anthracite coal and 12" of crushed sand to remove very small particles.
- 5. Chlorine Disinfection** — After filters, chlorine is added as a secondary disinfectant. This provides extra protection from potentially harmful microorganisms.



6. **Fluoridation** — Fluoride, when administered at low levels, is proven to help prevent tooth decay.
7. **Clearwell** — Treated water is stored in deep underground tanks and pumped as needed through the distribution system.
8. **Corrosion Control** — A phosphorous compound is added to help control corrosion of pipes. This helps prevent lead and copper from leaching from plumbing into the water.
9. **Chloramine Protection** — Ammonia changes the chlorine to chloramine, a disinfectant that maintains bacteriological protection in the distribution system.

Milwaukee Water Works

Safe, Abundant Drinking Water.

Learn more about Milwaukee Water at: www.water.mpw.net.

Operations

The Milwaukee Water Works provides safe, abundant drinking water to the City of Milwaukee and 15 communities in southeast Wisconsin. The utility is a self-financing enterprise owned by the City of Milwaukee. It is regulated by the Public Service Commission of Wisconsin (PSC), the U.S. Environmental Protection Agency (EPA), and the Wisconsin Department of Natural Resources (DNR).

Excellence in water quality and customer service, infrastructure maintenance, operational efficiency, and consistent financial performance are the hallmarks of the Milwaukee Water Works.

The organization of the Milwaukee Water Works focuses on excellence in water quality and customer service, infrastructure maintenance, operational efficiency, and consistent financial performance.

Water Treatment Plants

The utility treats Lake Michigan water with a multiple-step process to protect public health. Ozone gas, one of the most powerful disinfectants available, destroys microorganisms, minimizes formation of chlorinated disinfection byproducts, and removes taste and odor. Coagulation, settling, and filtration remove additional particles. Fluoride is added for dental health.

Two plants, Linnwood and Howard Avenue, operate 24 hours a day. The Howard Avenue Treatment Plant has a rated capacity of 105 million gallons per day (MGD) while the Linnwood Treatment Plant has a rated capacity of 275 MGD. The average daily pumpage of the utility in 2006 was 115 MGD.

Continuous monitoring of process control parameters and water quality characteristics is performed by on-line instrumentation at both water treatment plants. A computerized Maintenance and Management System (CMMS) schedules and documents routine maintenance and quality control checks on over 175 pieces of online water quality monitoring instrumentation and thousands of other pieces of equipment used in the water treatment process.

Milwaukee provides water service to 15 communities in southeast Wisconsin.

Retail suburban customers receive water, billing service, and maintenance of their piping systems:

- a portion of Franklin
- Greenfield
- Hales Corners
- St. Francis
- West Milwaukee
(provides its own maintenance)

Wholesale suburban customers receive water but conduct their own billing and distribution maintenance:

- Brown Deer
- Butler
- Greendale
- Menomonee Falls
- portions of Mequon and Thiensville
(through We Energies Water Services)
- Milwaukee County Grounds facilities
- portion of New Berlin
- Shorewood
- Wauwatosa
- West Allis



Mayor Tom Barrett and Common Council President Willie Hines fill their bottles at the tap to enjoy Milwaukee's high quality drinking water. Also pictured at City Hall for a National Drinking Water Week event in May were (l-r) Public Works Commissioner Jeffrey Mantes, Ald. Robert Puente, Ald. Terry Witkowski, Superintendent Carrie Lewis, and Ald. Michael Murphy.

National Drinking Water Week

National Drinking Water Week is a time to encourage community stewardship of water pipes and facilities to ensure they continue to serve future generations. Consider the incredible value of a safe, reliable water system to our community. The water is actually "free" – the public pays for the treatment, testing and distribution of drinking water.

Tap water delivers public health protection.

Our water system meets and exceeds rigorous federal and state health-protective standards.

A well-maintained water system provides fire suppression.

Reliable pressure protects our community from the threat of large, uncontrollable fires. The ability to suppress fires influences new construction, business location decisions, and insurance rates.

Tap water delivers support for the economy.

The Milwaukee Water Works' largest customers rely on a high quality water source and provide jobs for the Milwaukee region.

Tap water delivers overall quality of life.

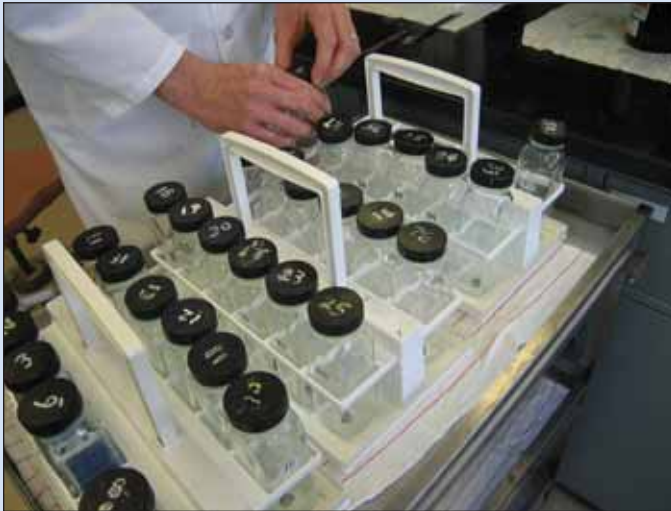
Every day, we turn on a faucet and enjoy water that is readily available, high quality, tastes great, and is healthful to drink.

Water Quality

The Water Quality Section provides continuous process control monitoring and validates the measurements in the laboratory. The Milwaukee Water Works continually meets EPA requirements to test for 90 regulated contaminants, and voluntarily tests for over 500 non-regulated contaminants to assure the highest quality water. Most of the contaminants are not detected.

Distribution

Distribution activities focus on scheduled preventive maintenance and emergency repairs. Distribution crews repair and maintain 1,964 miles of underground water piping throughout Milwaukee and the utility's retail customer suburbs to ensure continuous delivery of sufficient high quality water. Distribution workers regularly inspect and maintain approximately 20,000 fire hydrants.



Exceptional Monitoring Practices

In 2006, Water Quality staff completed regulatory monitoring and report submittal to comply with requirements of the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) and the Disinfectants and Disinfection Byproducts Rule (Stage 2 DBP) as part of the Federal Safe Drinking Water Act begun in 2006. Also notable in 2006, microbiological staff began electronic data reporting directly into the Wisconsin DNR database.

The Water Quality Section continued its proactive stance in expanding the unregulated contaminant monitoring and screening program in 2006. Water quality monitoring included Endocrine Disrupting Compounds, brominated flame retardants, and pharmaceuticals. The screening program of the Lake Michigan source water includes over 500 specific parameters per year.

Water Engineering

The Water Engineering Section is an internal resource for the utility, responsive to applied research needs and coordinator of the Capital Improvements Program (CIP). The CIP projects are planned to increase efficiency and maintain the reliability of the entire water works system.

Business

Accounting Services provides budgeting and accounting services for the water works, including developing the budget, monitoring and analyzing expenditures, processing contract and other vendor payments, and payroll.

Billing and Collections staff generate and collect the Municipal Services Bills, which, in addition to charges for water, include charges and fees for Milwaukee Metropolitan Sewerage District sewage treatment, city sewer maintenance, city stormwater management, solid waste collection, and ice and snow removal. The Milwaukee Water Works collected over \$135 million for these charges and fees in 2006.

Customer Service responds to inquiries made by telephone, online, and in-person visits to the Customer Service Center in the Zeidler Municipal Building. These inquiries concern billing, water use, and scheduling meter inspection appointments, among other things.

Meter Services personnel work to ensure that water meters are operating properly and accurately represent water usage. Services include meter reading, both automated and manual, on-site; and meter testing and servicing.

Technical Services maintains the utility's information processing network and equipment.

Water Marketing raises awareness of the benefits of Milwaukee's water quality, quantity, and value; works to encourage water-intensive industries to expand or relocate in Milwaukee, and serves as liaison with existing large water customers.

Milwaukee water is an excellent value. The average cost per person per day for water in 2006 was 8.5 cents. Only tap water delivers clean water to protect public health, provides water and pressure for fire suppression, and supports the regional economy and the overall quality of life in the Milwaukee area.



Coca-Cola Enterprises is one of the largest customers of the Milwaukee Water Works. Mayor Tom Barrett and Superintendent Carrie Lewis toured the northwest side plant in May.

The Milwaukee Water Works takes pride in providing safe and abundant water to support the regional economy and the overall quality of life in the Milwaukee area. These were our largest commercial customers in 2006:

Miller Brewing Co.
 We Energies
 Milwaukee Public Schools
 D.R. Diedrich & Co. Ltd.
(leather products)
 Cargill Meat Solutions Corp.
 University of Wisconsin-
 Milwaukee
 Marquette University
 Aurora St. Luke's Medical
 Center
 Falk Corp.
 U.S. Dept. of Veteran's Affairs
 Campbell Soup Supply Co.
 GE Medical Systems
 Metropolitan Associates
(apartment homes)

Master Lock
 Coca Cola Enterprises
 Rockwell Automation
 Joy Global Inc.
 Towne Realty Inc.
 Columbia St. Mary's
 Wisconsin Paperboard Corp.
 The Marcus Corp.
 Fontarôme Chemical, Inc.
 Aurora Sinai Medical Center
 Hydrite Chemical Co.
 Milwaukee Forge
 The Shoreline Co. *(real estate)*
 Wheaton Franciscan Health
 Care/St. Joseph's Hospital

Stainless Foundry &
 Engineering, Inc.
 Henri's Food Products Co. Inc.
 Pereles Bros. Inc. *(plastics)*
 Masterson Co. *(food
 products and packaging)*
 Hercules Inc. *(chemicals,
 plastics)*
 Molecular Biology Resources,
 Inc. *(enzymes; nondiagnostic
 biological products)*
 St. Francis Hospital
 Klement Sausage Co.

Highlights of 2006

Protecting Public Health

The Milwaukee Water Works conducted a number of projects to increase the reliability of facilities to provide sufficient quantities of high quality drinking water. Compliance with new federal regulations (Long Term 2 Enhanced Surface Water Treatment Rule, Disinfectants and Disinfection By-Products Rule, and Unregulated Contaminant Monitoring Rule) will be achieved without changes to treatment processes, an enormous benefit of the major plant improvement projects completed in the late 1990s.

Distribution system water quality monitoring was improved by adding five sites to those comprehensively analyzed. Microbiological methods were modified to achieve improved detection limits. The hydrant-flushing program continues to successfully control distribution-related turbidity episodes. The Department of Neighborhood Services began preparing the cross connection control program for commercial and industrial accounts.

The Milwaukee Water Works has been recognized by the EPA for its interagency relationships with local and state health officials in a program of enteric disease surveillance and response.

E-Commerce — New Conveniences for Customers

Upgrades to the Customer Information System (CIS) strengthened the accounting integrity of the various fees on the Municipal Services Bill managed by the Milwaukee Water Works. The enhanced flexibility of the system allowed for the billing of the Storm Water Management Charge starting in 2006. This was also the first full year using a new multi-functional telephone system and an upgraded Interactive Voice Response system (IVR).

Groundwork was laid for the new interactive Web page. Nearly 300 customers contacted the Milwaukee Water Works through the website email address, watwebcs@milwaukee.gov. Customers are able to view account balances and make address changes using the web page, and in 2007, will be able to pay their Municipal Services Bill online using a credit card or e-check.

Success in Reducing Illegally Opened Hydrants

Public safety was significantly improved and millions of gallons of treated water were not wasted by reducing illegal hydrant openings. This required a coordinated effort of the Milwaukee Water Works, Milwaukee Public Schools (MPS), Milwaukee Police Department (MPD) and the Milwaukee Fire Department (MFD). The Milwaukee Water Works installed locking devices on hydrants in problem areas, and for MPS playground Cool Spots, fabricated sprinkler devices and provided water for them using fire hoses and fire hydrants. The Milwaukee Water Works provided articles about the dangers of open hydrants in aldermanic newsletters; local news media provided coverage.

Public Works Field Headquarters Provides Efficiencies

Three Milwaukee Water Works Distribution work units were consolidated into a single work unit at a new location at 3850 N. 35th St. A new facility was designed specifically to allow efficient and flexible operations.

- Additional garage space is an enormous advantage for the Milwaukee Water Works. For the first time since the early 1960s, the utility can accommodate emergency response vehicles in a heated garage. Forty-five percent of the emergency response work is in December, January, and February, so a heated garage keeps vehicles and personnel warm and ready to respond.
- The new yard provides overhang bin storage along the east side of the building, protecting materials from the weather. Heated floors in storage areas prevent backfill chips and other materials from freezing in cold weather.
- New shop areas provide state-of-the-art lighting and ventilation and adequate space for safe storage of materials. Water works employees can now easily collaborate with colleagues in Infrastructure and Operations staff, eliminating duplication and sharing expertise.
- The Milwaukee Water Works' 24-hour Control Center moved to the Field Headquarters from the Municipal Building where it had originated in 1959. This led to integration of the dispatch function and information sharing directly within Distribution operations.
- With Municipal Equipment mechanics on site, preventive maintenance of vehicles is performed on site during second shift. This improves productivity by eliminating the need to shuttle vehicles between Distribution work facilities and vehicle maintenance facilities.



May 25 marked the consolidation of three major water works operations at one location. Here, Mayor Tom Barrett and Public Works Commissioner Jeffrey Mantes (center) officially open the new DPW Field Headquarters. Milwaukee Water Works Administration and Projects Manager Laura Daniels (fifth from left) served on the facility design team.



Above: A new storage yard, shop areas, and additional garage space were designed specifically for more efficient and flexible field operations.



Left: The new DPW Field Headquarters is home to Milwaukee Water Works Distribution crews and its 24-hour Control Center.

Generating Business

The Milwaukee Water Works was the first water utility in Wisconsin to create a partnership with state, regional, and local economic development programs to market the region's high quality, low cost water as an economic advantage in business retention and expansion efforts.

Collaborative marketing efforts led to the Cintas Corp. decision in 2006 to locate an \$8.5 million industrial laundry in Milwaukee. The decision to build in the city and create up to 125 jobs was driven by Milwaukee's

superior water supply and distribution system, according to the Milwaukee Economic Development Corp. The facility is projected to use 120,000 gallons of water per day and generate an estimated \$42,000 in revenue annually for the Milwaukee Water Works.



Forward Wisconsin President Pepi Randolph and other state Administration officials open the Wisconsin booth at BIO, the international biotech business development convention held in 2006 in Chicago. The Milwaukee Water Works was a member of the joint marketing effort with Forward Wisconsin and the Milwaukee Economic Development Corp. at the event.

Infrastructure Innovations

Planning for the systematic replacement and rehabilitation of production and delivery system infrastructure helps insure future water supplies for our customers. Every year, major projects are undertaken to maintain and improve the performance and reliability of the water treatment plants.

The Milwaukee Water Works has developed new techniques to conserve energy and resources, recycle materials, and prevent more costly repairs through regular maintenance. From treatment plants to underground water mains, the Milwaukee Water Works conducts daily system-wide activities to maintain the performance and reliability of its infrastructure.

Major 2006 plant projects included security enhancements at the Riverside Pumping Station and roof replacements at the North Point Station and Linnwood Plant ozone contactor building. New energy efficient windows were installed at the Linnwood pump room. Ozone generation and water contact units were serviced, some parts replaced, and pipe insulation was renewed to restore efficiency. The baffles in the deep clear wells at the end of the treatment process are inspected and repaired to insure disinfection contact time with the finished water is adequate. Regularly, diving teams are required to address repair, maintenance, and replacement throughout the plant.

Water main replacements strengthen the distribution system. Pumps and flow meters are being tested and calibrated for a system-wide hydraulic model. Scheduled preventive maintenance in the distribution system includes inspection and maintenance of fire hydrants, annual flushing of dead end water mains, and leak surveys to identify non-surfacing water leaks. Distribution personnel research and use new technologies for materials, repair parts, and equipment. The Milwaukee Water Works coordinates preventive maintenance with the paving programs of the city and state and suburban communities to avoid digging up a street after new construction. Distribution system water quality monitoring was improved

by adding five sites to those already under comprehensive analysis; microbiological methods were modified to achieve improved detection limits.

A hydrant flushing program controls distribution-related turbidity episodes. The Department of Neighborhood Services is implementing a cross connection control program for commercial and industrial accounts.

Water Engineering expanded its distribution system modeling and instrument calibration, begun in 2005 at three booster pumping stations, to include the remaining 11 stations. The data collected is used to improve booster station operation and to calibrate a hydraulic model to reflect the possible effects of proposed station and water main changes. Each year repairs and upgrades are done on some of the stations.

Sustainability and Energy Conservation

The Milwaukee Water Works has developed several initiatives focusing on sustainability, energy conservation, and operational efficiency in the face of increasing energy and chemical costs.

Investment in Infrastructure Provides Results

A plentiful supply of water used to respond to the gas explosion and fire Dec. 6 at the Falk Corp. in the Menomonee Valley proved the value of continuous investment in infrastructure. A year earlier, through the Milwaukee Water Works' capital improvement program, the Department of Public Works began a \$1.05 million water main extension project to provide new and enhanced service to the redeveloping valley.

One mile of 12" water main in the realigned W. Canal St. from S. 32nd St. to S. 44th St. was linked with a 12" main at 32nd St. and a 30" main in 44th St. There had been no water main in that portion of Canal Street. The improvement allowed the Falk Corp. to feed its fire protection system from a 12" branch off the new main. The previous connection was an 8" branch off of a 12" main with only one source of supply. The improved fire flow capabilities of the water mains in the valley gave the Milwaukee Fire Department plentiful, pressurized water to control and suppress the fire that raged after the explosion.

The project presented complicated logistics and a number of challenges. Two sources of supply were required to provide sufficient capacity and reliability of service. On the east end of the project, near South 33rd Street, the existing water facilities were separated from the Menomonee Valley by the Canadian Pacific Railroad property. A railroad license was obtained from Canadian Pacific Railroad, a casing pipe was installed beneath the property, and the water main was installed inside the casing pipe.

On the west side of the project, the water main was installed through a Miller Park parking lot and then below the Menomonee River before connecting at South 44th Street. An easement was obtained from the Southeast Wisconsin Professional Baseball Park District, the Milwaukee Brewers, and the State Building Commission, to install the water main through the parking lot. A DNR permit was required to install the water main within the Menomonee River limits. The water main installation in the river area was done during winter months to take advantage of low flow conditions, to minimize environmental impacts, and to avoid events at Miller Park.

Projects included installation of energy efficient lighting and motion sensing lighting, and a variable frequency drive on a booster station pump. Employees adopted new operating methods to use the most energy efficient pumps for the situation to keep water flow consistent during peak and lower demand times.

Chemical dosing was optimized to mitigate increases in chemical costs. The online analyzer instrumentation which provides continuous monitoring of process control parameters and water quality characteristics is regularly tested and replaced with new instruments using ever-improved accuracy and reliability. There is a longterm plan to replace existing windows at the two water treatment plants with energy efficient windows. Batteries and fluorescent lighting are recycled. Concrete and asphalt taken from construction and maintenance sites is now separated and reused. Fire hydrant inspections and leak detection tests reduce water lost to leakage. The Linnwood Plant implemented a planner-based maintenance program and is working with the Plant Automation staff to develop maintenance benchmarking.

The Milwaukee Water Works operates its water treatment filters using extended run criteria which results in a more efficient operation while maintaining the high quality of treated water leaving the plant. The method reduces filter backwashes by about 250 per year, avoiding 125 start/stop operations of the 40 MGD washwater pumps. This saves electrical energy and approximately 98 million gallons of treated water that would have been used for backwashing.

To help consumers “Use Water Wisely” the Milwaukee Water Works conducts an ongoing public education campaign. The program uses printed literature, the city cable channel, local news media, and the utility website to encourage customers to watch for and fix plumbing leaks and to protect water pipes and meters from freezing during cold weather months. In 2006, Customer Service employees counseled over 2,000 customers concerning unusually high water use.

Emergency Preparedness

The Milwaukee Water Works conducts a regular review of its Continuity of Operations Plan, which would be used in the event that one or more of its facilities would become inoperable. The water works meets monthly with City of Milwaukee Health Department officials and the partnership would provide a coordinated response as needed. The Milwaukee Water Works and Milwaukee County Emergency Government also meet regularly regarding infrastructure and emergency needs.

With the Department of Natural Resources, the Milwaukee Water Works conducted an Emergency Response Tabletop Exercise in March 2006. The workshop included personnel from the city Health, Police, and Fire Departments, Milwaukee County Emergency Government, and Mayor Barrett’s Emergency



Superintendent Carrie Lewis instructs staff during a Department of Natural Resources workshop to review a continuity of operations plan for the utility. The tabletop exercise also involved personnel from the Milwaukee Health, Police, and Fire Departments, and other agencies that would respond to an emergency situation.

Government Coordinator. The daylong emergency response planning and test were funded by the DNR. Later that spring, the Milwaukee Water Works conducted an internal test of an emergency plan. The weekend exercise used a scenario in which a pressure district lost a certain amount of pressure, prompting a determination of the type of outage, extent of the interruption, and the response.

The Milwaukee Water Works will complete an evaluation of electrical reliability in 2007 and make recommendations in the 2008 capital improvement budget for backup power solutions for five critical water infrastructure sites.

Contributing to the Advance of the Water Industry

The Milwaukee Water Works participates in drinking water industry activities to contribute to and benefit from information exchange regarding sustainability, security, critical information policies, and next-generation water treatment techniques. Milwaukee Water Works employees serve on advisory boards and committees of these agencies:

- American Water Works Association (AWWA) and its Wisconsin section, Wisconsin Water Association (WWA)
- American Water Works Association Research Foundation (AwwaRF)
- Department of Natural Resources
- Public Service Commission of Wisconsin
- Diggers Hotline
- Southeast Wisconsin Regional Planning Commission
- Milwaukee Area Technical College Environmental and Pollution Technical Advisory Committee

Superintendent Carrie Lewis serves on the AWWA Water Utility Council, the volunteer unit that sets regulatory and legislative policy for the association. She also serves on the advisory panel to the Water Information Sharing and Analysis Center (WaterISAC), the comprehensive online resource of security and disaster preparedness information for drinking water and wastewater utilities. She also represents AWWA on the EPA Total Coliform Rule/Distribution System Advisory Committee.

Water Quality staff collaborated on research in a participating utility role in several AWWA and AwwaRF published reports including:

- Characterization of Particles in Filter Effluents
- Long-Term Effects of Disinfection Changes on Water Quality
- Dissolved Organic Nitrogen in Drinking Water and Reclaimed Waste Water
- Information Technology staff and Water Quality staff worked together to develop and prepare forms and coliform reporting data for the EPA ESSENCE Project to be piloted in 2007.

Local outreach included many after-hours activities. For example, the Business Manager provided an overview of Milwaukee Water Works operations and water quality in January to the 22-block cluster organization at WFH-St. Joseph Hospital. The Linnwood Water Treatment Plant Manager provided a tour in September of the Riverside Pumping Station to members of a nearby association. The Water Quality Manager participated in teacher in-service training at the Wisconsin Career Academy in December. The Marketing Specialist provided informational displays and water quality information for National Drinking Water Week and National Public Works Week exhibits at City Hall, and for the Wisconsin State Fair exhibition building visitors center.

Kilbourn Reservoir Park

A “greening Milwaukee” project began in 2006 with the physical deconstruction of the 125-year-old Kilbourn Reservoir just west of E. North Ave. and N. Humboldt Ave. The Water Works determined in 2004 the structure was no longer needed, then sought input during the next two years from neighborhood groups to design a new park. Storm water management calculations show that 3.63 acres of pavement will be returned to water-absorbing vegetation when the project is completed.



View of Kilbourn Reservoir pre-1979

The final shape of the hill was a topic of much discussion and study during the master planning process with neighbors and elected officials. General consensus was that the south end of the hill should stay about the same shape. Without the reservoir underneath, the top of the hill would be about five feet lower than it was. This would allow for a large, flat plateau at the top and would meet the guideline of preserving the hill as a landmark with an unmatched view for the neighborhood.

The center, east, and west sides of the hill will be reduced in height, with the sides shaped to an all-accessible slope and the center shaped like a large bowl to provide a sledding hill and a natural amphitheater. The east, west, and north sides of the hill will have a paved path that outlines the shape of the reservoir and allows access to the

upper reservoir overlook. The north end of the site will be significantly re-graded to create a much larger flat park-like area than what existed.

By December, the contractor had made significant progress on the demolition of the internal structure of the reservoir and had removed certain non-historic and volunteer trees and weedy overgrowth. Following demolition of the structure under the hill, the contractor will bring in soil and grade to re-form the hill. Landscaping and plantings will follow.



Demolishing the reservoir structure 2006

Preparing the future workforce

The Milwaukee Water Works conducts an internship program with the Milwaukee Area Technical College (MATC) to provide workplace experience for training of future water treatment plant operators and mechanics. Several former interns and MATC graduates are now employed in the plants and laboratories. Other personnel take part in elementary and high school career day programs.

Giving back to the community

Milwaukee Water Works employees generously give back to their hometown. In 2006, they contributed \$27,621.08 to the United Way/Combined Giving Campaign. This exceeded their gifts totaling \$23,736 in 2005.



Mayor Tom Barrett speaks to students participating in an environmental awareness program sponsored by Coca-Cola Enterprises and Keep Greater Milwaukee Beautiful. Milwaukee Water Works Superintendent Carrie Lewis also spoke about the importance of drinking water in daily life and encouraged students to take an interest in math and science.

Top Honor for Superintendent Carrie Lewis

In September, Milwaukee Water Works Superintendent Carrie Lewis received the American Water Works Association (AWWA) George Warren Fuller Award, the drinking water industry's highest honor for leadership and contributions to the advancement of the water works practice. The co-author of two books on particle counting in water treatment, Lewis has been published over 30 times by AWWA, AwwaRF, Centers for Disease Control, and many public health associations. She was featured in the March 2006 AWWA Journal commemorating the 125th anniversary of the AWWA.

Lewis directed the Water Works reorganization that resulted in the 2003 Association of Metropolitan Water Agencies Gold Award for competitiveness and financial efficiency. She has served on numerous AwwaRF project advisory committees contributing to reports on topics ranging from treatment plant optimization to water system security. Lewis assists a project advisory committee writing critical information policies for water utilities, and serves on a Milwaukee countywide critical infrastructure protection group.

Lewis serves on the AWWA Water Utility Council, WaterISAC Board of Managers, and the EPA Total Coliform Rule/Distribution System Advisory.

Milwaukee **Water Works**

Safe, Abundant Drinking Water.

2006 Financial Report





KPMG LLP
777 East Wisconsin Avenue
Milwaukee, Wisconsin 53202-5337

Independent Auditors' Report

The Honorable Members of the Common Council
City of Milwaukee:

We have audited the accompanying basic financial statements of the City of Milwaukee – Water Works (Water Works), an enterprise fund of the City of Milwaukee, Wisconsin, as of and for the years ended December 31, 2006 and 2005, as listed in the table of contents. These financial statements are the responsibility of the Water Works' management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the City's internal control over financial reporting of the Water Works. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

As discussed in note 1, the financial statements present only the Water Works and do not purport to, and do not, present fairly the financial position of the City of Milwaukee, Wisconsin, as of December 31, 2006 and 2005, and the changes in its financial position for the years then ended in conformity with U.S. generally accepted accounting principles.

In our opinion, the basic financial statements referred to above present fairly, in all material respects, the financial position of the City of Milwaukee – Water Works as of December 31, 2006 and 2005, and the changes in its financial position and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

The management's discussion and analysis on pages 21 through 27 is not a required part of the basic financial statements but is supplementary information required by U.S. generally accepted accounting principles. We have applied certain limited procedures, which consisted principally of inquiries of management regarding the methods of measurement and presentation of the required supplementary information. However, we did not audit the information and express no opinion on it.

KPMG LLP

Milwaukee, Wisconsin
July 30, 2007

KPMG LLP, a U.S. limited liability partnership, is the U.S. member firm of KPMG International, a Swiss cooperative.

City of Milwaukee – Water Works
Management Discussion and Analysis
December 31, 2006 and 2005
(Unaudited)

The management of the Milwaukee Water Works offers readers of the organization's financial statements this narrative overview and analysis of the Milwaukee Water Works' financial statements for the fiscal years ended December 31, 2006 and 2005. Readers are encouraged to consider the information presented here in conjunction with the financial information.

The mission of the Milwaukee Water Works is to provide safe, reliable and aesthetically pleasing drinking water to the City of Milwaukee and customers in suburban communities.

Financial Highlights

Year ended December 31, 2006

- Total revenues decreased by 2.35% in 2006, from \$73.0 million in 2005 to \$71.3 million in 2006.
- Total expenses also decreased by \$.1 million to \$58.1 million or .27% in 2006. In 2005, total expenses were \$58.2 million.
- As of December 31, 2006, the Water Works outstanding debt consisted of \$12.1 million in revenue bonds through the State of Wisconsin Safe Drinking Water Loan Program and \$23.7 million in general obligation bonds for a total of \$35.8 million. As of December 31, 2005, total debt amounted to \$41.3 million, with \$12.9 million in revenue bonds and \$28.4 million in general obligation bonds.
- The Milwaukee Water Works is an enterprise fund within the primary government of the City of Milwaukee and as such is not subject to property taxes. In place of property taxes, the Milwaukee Water Works contributes to the City's tax levy by making a payment in lieu of taxes (PILOT). This amounted to \$7.5 million in 2006 and \$7.7 million in 2005 and is reported in the accompanying statement of revenues, expenses, and changes in net assets as operating transfers out.

Year ended December 31, 2005

- Total revenues increased by 1.25% in 2005, from \$72.1 million in 2004 to \$73.0 million in 2005.
- Total expenses increased by \$4.2 million to \$58.2 million or 7.77% in 2005. In 2004, total expenses were \$54.0 million.
- As of December 31, 2005, the Water Works outstanding debt consisted of \$12.9 million in revenue bonds through the State of Wisconsin Safe Drinking Water Loan Program and \$28.4 million in general obligation bonds for a total of \$41.3 million. As of December 31, 2004, total debt amounted to \$46.9 million, with \$13.7 million in revenue bonds and \$33.2 million in general obligation bonds.
- The payment in lieu of taxes (PILOT) amounted to \$7.7 million in 2005 and \$7.9 million in 2004.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the basic statements of the Milwaukee Water Works. The Milwaukee Water Works basic financial statements are comprised of two components: 1) the financial statements and 2) notes to the financial statements which explain in more detail some of the information in the statements.

Required Financial Statements

The financial statements of the Water Works report information about the Water Works using accounting methods similar to those used by private-sector companies. These statements provide both long-term and short-term information about the Water Works' overall financial status.

The statement of net assets presents information on all of the Water Works' assets and liabilities, with the difference between the two reported as net assets. This statement provides information about the nature and the amounts of investments in resources (assets) and the obligations to Water Works creditors (liabilities). It provides one way to measure the financial health of the Water Works by providing the basis for evaluating the capital structure of the Water Works and assessing the liquidity and financial flexibility of the Water Works. However, one will need to consider other non-financial factors such as changes in economic conditions, population and industrial/commercial customer growth, and new or changed government legislation.

All of the current year's revenues and expenses are accounted for in the statement of revenues, expenses, and changes in net assets. This statement measures the Water Works' results of operations over the past year and can be used to determine whether the Water Works has successfully recovered all its costs through its user fees and other charges.

The final required financial statement is the statement of cash flows. The statement reports cash receipts, cash payments, and net changes in cash resulting from operations, financing and investing activities. This statement identifies sources and uses of cash as well as the change in the cash balance during the reporting period.

Financial Analysis of the Water Works

Statement of Net Assets — A summary of assets, liabilities, and net assets as of December 31, 2006, 2005, and 2004 is as follows:

Table A-1 Condensed Summary of Net Assets

	2006	2005	2004
Assets			
Total Current Assets	\$59,607,231	58,670,375	60,975,985
Net Capital Assets	370,714,337	365,522,302	359,121,526
Total Assets	430,321,568	424,192,677	420,097,511
Total Current Liabilities	17,868,179	16,524,444	15,907,702
Total Non current Liabilities	31,546,306	35,780,698	41,298,818
Total Liabilities	49,414,485	52,305,142	57,206,520
Net Assets			
Invested in Capital Assets, net of related debt	334,937,406	324,203,338	312,147,014
Restricted for Debt Service	632,047	620,880	609,999
Unrestricted Net Assets	45,337,630	47,063,317	50,133,978
Total Net Assets	\$380,907,083	371,887,535	362,890,991

Net assets may, over time, serve as a useful indicator of an entity's financial position. In the case of the Milwaukee Water Works, assets exceeded liabilities by \$380,907,083 and \$371,887,535 at December 31, 2006 and 2005, respectively.

In Table A-1, it can be seen that the largest portion of the Water Works' net assets (88% and 87% as of December 31, 2006 and 2005, respectively) reflects the Utility's investment in capital assets (e.g., water mains, buildings, machinery and equipment) net of related debt. Also, as shown in Table A-3, the Water Works' water main system makes up approximately 56% of the capital assets as of December 31, 2006 and 55% as of December 31, 2005. The Milwaukee Water Works uses these capital assets to provide safe reliable and aesthetically pleasing drinking water to its 850,000-customer base that lives in the City of Milwaukee and surrounding communities.

The Milwaukee Water Works investment in capital assets is reported net of related debt. The resources to repay this debt must be provided from operating and non-operating activities as the capital assets themselves are not intended to be used to liquidate these liabilities.

The remaining net assets (12% and 13% as of December 31, 2006 and 2005 respectively) are unrestricted and represent current assets (e.g., cash on hand for operation, cash held in the local government investment pool, accounts receivable and inventory and materials).

As can be seen in Table A-1, capital assets net of related debt increased by \$10.7 and \$12.1 million during the years ended December 31, 2006 and 2005, respectively. The increases in capital assets net of related debt were mainly due to a combination of reduction in related debt, increase in completion and capitalization of capital projects and contributed capital in both 2006 and 2005. The increases in net capital assets were \$5.2 million and \$6.4 million for 2006 and 2005, respectively. The amounts of contributed capital were \$3,228,913 and \$1,850,214 for 2006 and 2005, respectively with an increase of 74.5% from 2005 to 2006. This large increase in capital contribution is attributable to the Marquette Interchange project that is underway in downtown Milwaukee.

Statement of Revenues, Expenses, and Changes in Net Assets — While the summary of net assets (Table A-1) shows the amount of net assets, the statement of revenues, expenses and changes in net assets (Table A-2) provides answers as to the nature and source of the changes.

Table A-2 Condensed Summary of Revenues, Expenses and Changes in Net Assets

	2006	2005	2004
Operating Revenue	\$69,460,043	71,518,280	71,068,443
Non-Operating Revenue	1,865,572	1,525,883	987,669
Total Revenues	71,325,615	73,044,163	72,056,112
Depreciation Expense	12,519,592	12,000,434	11,726,310
Other Operating Expenses	43,904,503	44,284,191	39,984,555
Non-Operating Expenses	1,650,071	1,945,467	2,318,959
Total Expenses	58,074,166	58,230,092	54,029,824
Income before Capital Contributions & Transfers	13,251,449	14,814,071	18,026,288
Capital Contributions	3,228,913	1,850,214	2,092,276
Transfers Out	(7,460,814)	(7,667,741)	(7,899,647)
Changes in Net Assets	9,019,548	8,996,544	12,218,917
Beginning Net Assets	371,887,535	362,890,991	350,672,074
Ending Net Assets	\$380,907,083	371,887,535	362,890,991

Year ended December 31, 2006

A review of Table A-2 shows that operating revenues decreased by \$2 million or 2.88% and total expenses also decreased slightly by \$155,926 or 0.27%. These results may be explained as follows:

Revenues:

- 2006 water revenues and water consumption have both gone down from the previous year. Operating revenues decreased by \$2 million and gallons of water sold decreased by 3 billion gallons. The main reason for this drop is the loss of one of Milwaukee Water Works' largest industrial customers (Red Star Yeast) in 2006, due to a move from Milwaukee. The impact of this move on Milwaukee Water Works' revenue is a reduction of about \$1.1 million. In addition the cool and wet summer in 2006 has impacted consumption, thereby reducing water revenues. Table A-4 shows the sale of water (in billions gallons) for the last five years. According to this table, the sale of water for all customer class has consistently dropped from year to year except in 2005.
- Non-Operating revenues for 2006, which is mainly composed of interest income, increased by 22.2% or \$340,000 from 2005. This increase is due to a favorable interest rate on investments in 2006. Interest rate on Local Government Investment Pool (LGIP) with the State of Wisconsin, where most of Water Works' funds are invested, went up to 5.25% at the end of 2006 from 4.06% at the end of 2005.

Expenses:

Total expenses in 2006 remained almost the same as 2005 expenses with only a .27% decrease in 2006 to \$58.1 million.

- Operating expenses, excluding depreciation, decreased by \$380,000 or .86% in 2006. This is a net effect of different categories of expenses. Treatment and transmission and distribution expenses decreased by \$886,000 and \$495,000 respectively due to the fact that no major projects were undertaken in 2006 for these categories. On the other hand, administrative expenses increased by \$1.1 million, of which \$924,000 is attributed to rent on the new combined Water Distribution facility.
- Non-operating expenses, which consist of mainly interest expense, decreased by \$295,396 in 2006. In 2005, there was a decrease of \$373,492. These were basically due to declining principal balances.

Year ended December 31, 2005

A review of Table A-2 shows that operating revenues increased by \$0.5 million or 0.6% and total expenses also increased by \$4.2 million or 7.8%. These results may be explained as follows:

Revenues:

- In 2005, both water revenues and consumption went up from 2004. Operating revenues increased by \$ 0.5 million and the gallons sold increased by 1.1 billion gallons. This increase was mainly due to the hot and dry summer that Milwaukee experienced in 2005 that reversed the recent declining trend of water revenues. In 2004, the gallons sold decreased by 2.1 billion gallons from the previous year resulting in the largest decrease in four years.
- Non-operating revenues for 2005 increased by 54% or \$0.5 million from 2004. This is a result of more than modest increase in interest rates on Local Government Investment Pool (LGIP) to 4.06% at the end of 2005 from 1.9% at the end of 2004.

Expenses:

The \$4.2 million increase in expenses is attributed to the following:

- Operating expenses, excluding depreciation, increased by \$4.3 million or 10.8% in 2005. A major portion of this increase is in water pumping and water treatment expenses with a total increase of \$3.3 between the two categories.
 - ◆ Two major repair projects were undertaken in 2005. The Howard East Clearwell Roof Repair Project cost \$1.1 million and the Riverside Lead Abatement Project cost \$0.7 million. There were no projects of similar magnitude in 2004.
 - ◆ Rising cost of chemicals and energy also contributed to the increase in operating expenses.
- Non-operating expenses, decreased by \$373,492 in 2005. In 2004, there was a decrease of \$233,934. These were basically due to declining principal balances.

Capital Assets and Debt Administration

Capital Assets:

The Milwaukee Water Works calculates depreciation based on composite groups of assets within a given category and the average useful life. These categories are building & improvements, machinery & equipment and transmission and distribution systems. Each group's depreciation is then calculated using a rate authorized by the latest PSC rate order.

As of December 31, 2006, the Milwaukee Water Works investment in capital assets, net of accumulated depreciation, amounted to \$370,714,337. This represents an increase of \$5.2 million from year 2005. Investment in transmission and distribution system assets increased by \$11.4 million, whereas construction in progress decreased by \$2.4 million. This is due to completion and capitalization of a large number of projects in 2006. The combination of these two items along with depreciation expense and other minor changes in the remaining categories resulted in the \$5.2 million increase.

Table A-3 Capital Assets

	2006	2005	2004
Capital Assets:			
Land	\$1,280,630	1,541,856	1,567,911
Buildings	20,693,584	22,851,934	22,986,740
Transmission and Distribution System	306,507,308	295,103,517	275,708,732
Machinery & Equipment	201,262,299	197,870,747	195,798,480
Construction in Progress	9,144,994	11,524,958	20,250,713
Nonutility Property	5,603,586	3,018,679	540,299
Total Capital Assets	544,492,401	531,911,691	516,852,875
Less			
Accumulated Depreciation	(173,778,064)	(166,389,389)	(157,731,349)
Net Capital Assets	\$370,714,337	365,522,302	359,121,526

As of December 31, 2005, the Milwaukee Water Works investment in capital assets was \$365,522,302 (net of accumulated depreciation). This is an increase of \$6.4 million from year 2004. The increase is a net of an increase in investment in transmission and distribution assets and a decrease in construction in progress. A large number of projects were completed and capitalized in 2005 as well.

Investment Administration

As an enterprise fund within the primary government of the City of Milwaukee, the Milwaukee Water Works does not have a direct investment plan. As such, cash not in use for day-to-day operation is invested through the City of Milwaukee, primarily in the State of Wisconsin's Local Government Investment Pool (LGIP) and/or other types of investment instruments as determined by the City Treasurer. As of December 31, 2006 and 2005, the City Treasurer held cash and cash equivalents of \$31.8 million and \$29.0 million respectively on behalf of the Milwaukee Water Works that consisted of certificates of deposit, LGIP investments and cash accounts.

Debt Administration

Debt service is administered by the Public Debt Commission and can only be initiated through Council resolution with approval from the Commissioner of Public Works (or his designee, the Superintendent of Water Works).

The Water Works continues to make its regularly scheduled payments on its bonds. All bond debt covenants have been met.

As of December 31, 2006, and 2005, the Water Works debt consisted of \$12.1 and \$12.9 million respectively, in revenue bonds through the State of Wisconsin Safe Drinking Water Loan program and \$23.7 and \$28.4 million respectively, in general obligation bonds for a total indebtedness of \$35.8 and \$41.3 million for 2006 and 2005 respectively.

Economic Factors

A rate increase of 3.4%, which represented a cost of living adjustment, was effective for water sold after September 1, 2006. The impact of this increase on 2006 revenues was not significant.

A full rate increase application, which takes into account a desired level of rate of return, is underway. This increase is expected to be around 6%, pending approval by the Mayor, the Common Council and the Public Service Commission and will be implemented as soon as practicable after approval.

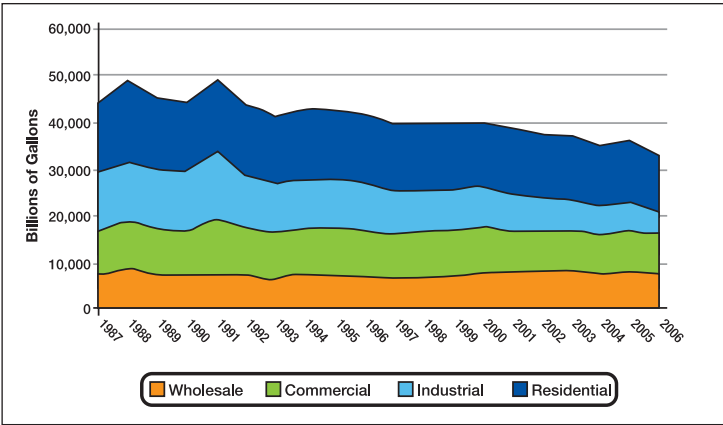
As shown in Table A-4, there has been a steady decline in water volume sold. Over the last five years, the volume of water sold to industrial customers has dropped by 34.3% whereas the drop in total water sold to all customers is 11.3%. The loss of customers in "wet industries" (breweries, leather, food processors, etc.) along with water conservation measures have significantly contributed to this decline in volume of water sold. Table A-5 shows the volume of water sold to different categories of customers over the last twenty years. As can be observed in the graph, there is a significant decline in the sale of water to industrial customers and a moderate reduction in the residential category. In 2006, Milwaukee Water Works lost one of its largest industrial customers (Red Star Yeast) due to a move out of the city. This resulted in about a billion gallons reduction in volume of water sold or about \$1.1 million in revenues.

Table A-4 Sale of Water (Billion gallons)

Customer Class	2006	2005	2004	2003	2002
Residential	12.2	13.0	12.7	13.5	13.7
Commercial	8.3	8.4	8.3	8.5	8.7
Industrial	4.6	6.2	6.2	6.6	7.0
Public Authority	2.4	2.6	2.4	2.6	2.6
Subtotal	27.5	30.2	29.6	31.2	32.0
Wholesale	7.9	8.2	7.7	8.2	7.9
Total	35.4	38.4	37.3	39.4	39.9

The Milwaukee Water Works, through its Water Marketing Specialist, continues to work with the Department of City Development in its effort to attract new commercial clients or developers that would utilize its water resources. The Water Works is seeking to increase revenue by retaining and encouraging expansion of existing customers and adding new customers. In 2006, Cintas Corporation decided to locate an \$8.5 million industrial laundry in Milwaukee. This facility is expected to use an estimated 120,000 gallons of water per day and will generate about \$42,000 in revenue annually. In August 2005, Milwaukee Water Works started selling water to the City of New Berlin based on a service agreement negotiated in prior years.

Table A-5 Volume of Water (Billion gallons)



Contacting Milwaukee Water Works Financial Management

This financial report is designed to provide a general overview of the Milwaukee Water Works' finances to our customers, creditors and anyone who has an interest in the Water Works' operations. If you have questions about this report or need additional information, contact Milwaukee Water Works, Superintendent, Carrie Lewis, 841 N. Broadway, Room 409, Milwaukee, Wisconsin 53202.

City of Milwaukee – Water Works
Statements of Net Assets
December 31, 2006 and 2005

	2006	2005
Assets		
Current Assets		
Cash and Cash Equivalents	\$31,177,353	28,419,655
Restricted Cash and Cash Equivalents	632,047	620,880
Accounts Receivable (Net)	10,720,388	10,570,759
Unbilled Accounts Receivable	9,620,726	9,471,062
Accrued Interest	171,788	135,433
Due from Other Funds	4,920,698	6,559,201
Inventory of Materials and Supplies	2,208,921	2,526,208
Prepaid Items	21,126	11,397
Other Assets	134,184	355,780
Total Current Assets	59,607,231	58,670,375
Non Current Assets		
Water Plant in Service (Net)	358,796,901	352,424,757
Construction Work In Process	9,144,994	11,524,958
Other Property (Net)	2,772,442	1,572,587
Total Non Current Assets	370,714,337	365,522,302
Total Assets	430,321,568	424,192,677
Current Liabilities		
Accounts Payable	3,165,412	3,639,281
Interest Payable	376,147	409,962
Accrued Wages	971,252	933,119
Compensated Absences	1,034,009	1,031,464
Due to Other Funds	8,021,167	4,169,164
Due to Other Governments	69,567	803,188
Long-term Debt Due Within One Year	4,230,625	5,538,266
Total Current Liabilities	17,868,179	16,524,444
Non Current Liabilities		
General Obligation Bonds Payable	20,339,704	23,705,719
Revenue Bonds Payable	11,206,602	12,074,979
Total Noncurrent Liabilities	31,546,306	35,780,698
Total Liabilities	49,414,485	52,305,142
Net Assets		
Invested in Capital Assets, net of related debt	334,937,406	324,203,338
Restricted for Debt Service	632,047	620,880
Unrestricted	45,337,630	47,063,317
Total Net Assets	\$380,907,083	371,887,535

The accompanying Notes to Financial Statements are an integral part of these statements.

City of Milwaukee – Water Works
**Statements of Revenues, Expenses and
 Changes in Fund Net Assets**
 For the Years Ending December 31, 2006 and 2005

	2006	2005
Operating Revenues		
Water Sales	\$56,516,900	59,132,967
Fire Protection Service	5,953,376	5,910,078
Charges for Shared Services	5,224,031	4,728,383
Other	1,765,736	1,746,852
Total Operating Revenues	<u>69,460,043</u>	<u>71,518,280</u>
Operating Expenses		
Administrative and General	6,051,486	4,952,562
Billing and Collection	2,232,989	2,266,380
Transmission and Distribution	17,099,476	17,594,059
Water Pumping	7,104,246	7,168,579
Water Treatment	11,416,306	12,302,611
Depreciation	12,519,592	12,000,434
Total Operating Expenses	<u>56,424,095</u>	<u>56,284,625</u>
Operating Income	<u>13,035,948</u>	<u>15,233,655</u>
Non-operating Revenues (Expenses)		
Interest Income	1,689,654	1,141,884
Interest Expense	(1,650,071)	(1,945,467)
Miscellaneous	175,918	383,999
Income Before Capital Contributions and Transfers	<u>13,251,449</u>	<u>14,814,071</u>
Capital Contributions	3,228,913	1,850,214
Transfers Out	(7,460,814)	(7,667,741)
Increase in Net Assets	<u>9,019,548</u>	<u>8,996,544</u>
Net Assets Beginning of Period	371,887,535	362,890,991
Net Assets End of Period	<u>\$380,907,083</u>	<u>371,887,535</u>

The accompanying Notes to Financial Statements are an integral part of these statements.

City of Milwaukee – Water Works
Statements of Cash Flows
For the Years Ending December 31, 2006 and 2005

	2006	2005
Cash Flows from Operating Activities		
Receipts from customers and users	\$69,575,287	71,418,588
Cash receipts from other funds	5,490,506	2,442,074
Payments to suppliers	(17,625,793)	(20,322,676)
Payments to employees	(22,154,541)	(21,864,238)
Payments to other funds	(4,372,363)	(3,723,211)
Net Cash Provided by Operating Activities	<u>30,913,096</u>	<u>27,950,537</u>
Cash Flows from Noncapital Financing Activities		
Miscellaneous Non-Operating Revenue	175,918	383,999
Transfer to other funds	(7,460,814)	(7,667,741)
Net Cash Used in Noncapital Financing Activities	<u>(7,284,896)</u>	<u>(7,283,742)</u>
Cash Flows from Capital and Related Financing Activities		
Acquisition of property, plant and equipment	(15,286,715)	(15,258,074)
Retirement of bonds, notes and revenue bonds	(5,538,267)	(5,675,693)
Interest paid	(1,687,652)	(1,964,377)
Net Cash Used in Capital and Related Financing Activities	<u>(22,512,634)</u>	<u>(22,898,144)</u>
Cash Flows from Investing Activities		
Interest income	1,653,299	1,076,184
Net Cash Provided by Investing Activities	<u>1,653,299</u>	<u>1,076,184</u>
Net Increase (Decrease) in Cash and Cash Equivalents	2,768,865	(1,155,165)
Cash and Cash Equivalents – Beginning	29,040,535	30,195,700
Cash and Cash Equivalents – Ending	<u>\$31,809,400</u>	<u>29,040,535</u>

The accompanying Notes to Financial Statements are an integral part of these statements.

– continued –

City of Milwaukee – Water Works
Statements of Cash Flows
For the Years Ending December 31, 2006 and 2005

	2006	2005
Cash and Cash Equivalents at Year End Consist of:		
Unrestricted Cash and Cash Equivalents	\$31,177,353	28,419,655
Restricted Cash and Cash Equivalents	632,047	620,880
Total Cash and Cash Equivalents	<u>\$31,809,400</u>	<u>29,040,535</u>
Reconciliation of Operating Income to Net Cash Provided by Operating Activities		
Operating income	\$13,035,948	15,233,655
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	12,519,592	12,000,434
Changes in assets and liabilities:		
Receivables	(299,293)	(307,746)
Due from/to other funds	5,490,506	2,442,074
Inventory of Materials and Supplies	317,287	70,747
Prepaid items	(9,729)	1,983
Other assets	221,596	(19,472)
Accounts Payable	(403,489)	(1,480,320)
Accrued Wages and Compensated Absences	40,678	9,182
Net cash provided by operating activities	<u>\$30,913,096</u>	<u>27,950,537</u>
Non-cash Activities:		
During the year, water mains and related property, installed by others were deeded to the Water Works in the amount of	\$3,228,913	1,850,214

The accompanying Notes to Financial Statements are an integral part of these statements.

City of Milwaukee – Water Works
Notes to Financial Statements
December 31, 2006 and 2005

1. Summary of Significant Accounting Policies

The City of Milwaukee Water Works ("Water Works") is an enterprise fund within the primary government of the City of Milwaukee (the "City"). The Water Works provides water to residents and commercial enterprises in the metropolitan Milwaukee area. The financial statements of the Water Works have been prepared in accordance with U. S. generally accepted accounting principles (GAAP), as prescribed by the Governmental Accounting Standards Board (GASB) modified for certain requirements of the Public Service Commission of Wisconsin ("PSC"). The PSC regulates rates charged to customers and other practices of the Water Works. To facilitate the understanding of data included in the financial statements, summarized below are the significant accounting policies.

Reporting Entity— As defined by U. S. GAAP, the financial reporting entity consists of a primary government as well as its component units, which are legally separate organizations for which the elected officials of the primary government are financially accountable. Financial accountability is defined as:

- (1) Appointment of a voting majority of the component unit's board and either
 - (a) the ability to impose will by the primary government or
 - (b) the possibility that the component unit will provide a financial benefit to or impose a financial burden on the primary government, or
- (2) Fiscal dependency on the primary government.

Based on the GASB criteria, the Water Works has no component units and is not a component unit of any other entity. However, because the Water Works is not legally separate from the City, it is included in the financial statements of the City as an enterprise fund.

Basis of Accounting—The accompanying financial statements were prepared on the accrual basis of accounting. Revenues from operations, investments, and other sources are recorded when earned. Expenses (including depreciation and amortization) of providing services to the public are accrued when incurred. Under the accrual basis of accounting, revenues are recognized in the accounting period in which they are earned and expenses are recognized in the period they are incurred.

Non-exchange transactions, in which the Water Works receives value without directly giving equal value in return, include contributions and grants. On an accrual basis, revenue from contributions and grants are recognized in the fiscal year in which all eligibility requirements have been satisfied. Eligibility requirements include timing requirements and expenditure requirements. Timing requirements specify the year when the resources are required to be used or the fiscal year when use is first permitted. Expenditure requirements specify the year in which the resources are provided to the Water Works on a reimbursement basis.

Pursuant to GASB Statement No. 20, *Accounting and Financial Reporting for Proprietary Funds and Other Governmental Entities that Use Proprietary Fund Accounting*, private-sector standards of accounting and financial reporting issued prior to December 1, 1989, generally are followed to the extent that those standards do not conflict with or contradict guidance of the Governmental Accounting Standards Board. The Water Works also has the option of following subsequent private-sector guidance, subject to this same limitation. The Water Works has elected not to follow subsequent private-sector guidance.

Cash equivalents—Cash equivalents represent all highly liquid investments purchased with original maturities of ninety days or less are stated at cost or amortized cost, which approximates fair value, and are invested with the City Treasurer.

Accounts Receivable—Accounts receivables is composed of charges to customers for water services and receivables for sundry bill charges that cannot be attached to the property. The Water Works allowance for doubtful accounts were \$155,370 and \$175,000 at December 31, 2006 and 2005, respectively. The year-end balance includes actual unpaid charges and a year-end estimate of the 2006 receivables that will be billed in the first quarter of 2007.

Inventory of Materials and Supplies—Inventories of materials and supplies are stated at moving average cost or lower of cost or market, based upon perpetual record keeping systems and periodic cycle counts of quantities on hand.

Investments—The City Treasurer is responsible for managing all of the Water Works' investments subject to the City's investment policy and Wisconsin Statutes. Wisconsin Statutes permit the City to invest funds not immediately needed in any of the following:

- ◆ Time deposits maturing within three years in any credit union, bank, savings bank, trust company or savings and loan association which are authorized to transact business in the State of Wisconsin.
- ◆ Bonds or securities issued or guaranteed by the Federal government.
- ◆ Bonds or securities of any county, city, drainage district, technical college district, village, town or school district of the State of Wisconsin, as well as bonds issued by a local exposition district, a local professional baseball park district, or the University of Wisconsin Hospitals and Clinics Authority.
- ◆ Local Government Investment Pool - Investment Fund of the State of Wisconsin.
- ◆ Repurchase agreements with public depositories, if the agreement is secured by federal bonds or securities.
- ◆ Any Security which matures or which may be tendered for purchase at the option of the holder within not more than seven years of the date on which it is acquired, if that security has a rating which is the highest or second highest rating category assigned by Standard & Poor's Corporation, Moody's Investors Service, Inc. or other similar nationally recognized rating agency or if that security is senior to, or on a parity with, a security of the same issuer which has such a rating.
- ◆ Securities of open-end management investment companies or investment trusts (mutual funds) if the portfolio is limited to (a) bonds and securities issued by the federal government or a commission, board or other instrumentality of the federal government, (b) bonds that are guaranteed as to principal and interest by the federal government or a commission, board or other instrumentality of the federal government, and (c) repurchase agreements that are fully collateralized by these bonds or securities.

Investments are reported at fair value based on quoted market prices. The Local Government Pooled – Investment Fund is an external investment pool administered by the State of Wisconsin. The fair value of the Water Works' investment in the fund is the same as the value of the pooled shares. Although not subject to direct regulatory oversight, the fund is administered in accordance with the provisions of Section 25.50 of the Wisconsin Statutes.

Capital Assets—Capital assets are defined by the Water Works as assets with an initial, individual cost of more than \$2,000 and an estimated useful life in excess of a year. Capital assets are capitalized at cost when purchased or constructed. Donated capital assets are recorded at their estimated fair value at the date of donation. Costs of depreciable property retired are removed from utility plant accounts and are charged to accumulated depreciation. Maintenance and

repair costs are charged to operations as incurred and renewals and improvements are added to the asset accounts. Depreciation is provided over the estimated useful lives using the straight-line method. The estimated useful lives are as follows:

Building and Improvements	45-58
Transmission and Distribution Systems	64-110
Machinery and Equipment	6-56

Bond Premiums, Discounts, and Issuance Costs—Bond premiums and discounts, as well as issuance costs are deferred and amortized over the life of the bonds using the effective interest method. Bonds payable are reported net of the applicable bond premium or discount. Bond issuance costs are reported as deferred charges and amortized over the term of the related debt.

Net Assets—Equity is displayed in three components as follows:

- ◆ **Invested in Capital Assets, Net of Related Debt**—This consists of capital assets, net of accumulated depreciation, less the outstanding balances of any bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets.
- ◆ **Restricted**—This consists of net assets that are legally restricted by outside parties or by law through constitutional provisions or enabling legislation. When both restricted and unrestricted resources are available for use, generally, it is the Water Work’s policy to use restricted resources first, and then unrestricted resources when they are needed. The Water Works has restricted net assets of \$632,047 and \$620,880 at December 31, 2006 and 2005, respectively. The restriction of Net Assets is related to the debt service requirements of the Revenue Bond.
- ◆ **Unrestricted**—This consists of net assets that do not meet the definition of “restricted” or “invested in capital assets, net of related debt”.

Vacation Benefits—Vacation benefits are recorded as expenses over the periods the benefits accrue to the employees.

Sick Leave—Sick leave is recorded as an expense when paid since accumulated sick leave is forfeited upon termination. Upon retirement, employees are generally entitled to payment of accumulated sick leave up to a maximum of 30 days. At December 31, 2006 and 2005, accumulated sick leave earned but not taken was approximately \$4,654,393 and \$4,748,563 respectively. Accumulated sick leave is determined on the basis of current salary rate. The amount of accumulated sick leave to be forfeited upon termination and retirement is not available and would reduce this amount. Payments for sick leave to retirees were immaterial to the financial statements for the years 2006 and 2005.

Revenues—Revenues are recognized when water services are rendered. Unbilled water services are accrued as receivables and revenues at year-end. The Water Works has classified its revenues as either operating or nonoperating. Operating Revenue includes activities that have the characteristics of exchange transactions including sales of water supplied to city, suburban and commercial users. Non-operating revenue includes activities that have the characteristics of non-exchange transactions, such as contributions and most Federal, State, and local grants and contracts.

Taxes—Payments in lieu of property taxes are recognized as a transfer in the year billed by the City.

Estimates—The preparation of financial statements, in conformity with accounting principles generally accepted in the United States of America, requires management to make estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements. Estimates also affect the reported amounts of revenues and expenses during the reporting period. A significant estimate included herein is the allowance for doubtful accounts receivable. Actual results could differ from this estimate.

New Accounting Pronouncements—In July 2004, GASB issued Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. This Statement establishes accounting and financial reporting standards for employers that participate in a defined benefit “other postemployment benefit” (OPEB) plan. Specifically, the City will be required to measure and disclose an amount for annual OPEB cost on the accrual basis for health and insurance benefits that will be provided to retired employees in future years. The City is also required to record a net OPEB obligation which is defined as the cumulative difference between annual OPEB cost and the employer’s contributions to a plan, including the OPEB liability or asset at transition, if any. The Water Works is currently evaluating the impact of the City adopting Statement No. 45. The Water Works will implement Statement No. 45 beginning with the year ended December 31, 2007.

In November 2006, the Governmental Accounting Standards Board (GASB) issued Statement No. 49, *Accounting and Financial Reporting for Pollution Remediation Obligations*. This statement addresses accounting and financial reporting standards for pollution (including contamination) remediation obligations, which are obligations to address the current or potential detrimental effects of existing pollution by participating in pollution remediation activities such as site assessments and cleanups. The Water Works will implement Statement No. 49 beginning with the year ending December 31, 2008.

2. Deposits and Investments

As of December 31, 2006, and 2005, the Water Works deposits and investments are as follows:

	2006	2005
Local Government Investment Pool	\$5,069,752	5,658,819
Deposits and Cash on Hand	26,739,648	23,381,716
Total	\$31,809,400	29,040,535

Custodial Credit Risk – Deposits:

Custodial credit risk for deposits is the risk that in the event of a financial institution failure, the Water Works’ deposits may not be returned. Per Common Council the City Treasurer shall require collateralization of certificates of time deposit (including interest checking) at financial institutions when the total amount of such certificates of deposit with any institution exceeds the combined insured limit of \$500,000. As of December 31, 2006 and 2005, the Water Works’ deposits were not subject to custodial credit risk as they were either insured or collateralized by securities held in the pledging bank’s trust department in the City’s name.

Interest Rate Risk:

Interest rate risk is the risk that the fair value of the Water Works’ investments will decrease as a result of an increase in interest rates. The City’s investment policy does not explicitly limit investment maturities. However, the City manages its exposure to interest risk based on the anticipated cash flow needs of the City. The City manages the Water Works’ cash and investments. The maturities for the Water Works’ deposits and investments are less than one year and are invested with the City Treasurer.

Credit risk:

Credit risk is the risk that the City will not recover its investments due to the ability of the counterparty to fulfill its obligations. Wisconsin Statutes expressly limit the City to invest in certain allowable investments. The City's investment policy generally does not further limit its investment choices. The Water Works' investment in the Wisconsin Local Government Investment Pool is not rated by a nationally recognized rating agency.

Concentration of Credit Risk:

As of December 31, 2006 and 2005, there are no investments that are considered to be a concentration of credit risk.

3. Capital Assets

Capital asset activity for the year ended December 31, 2006 was as follows:

	Balance Jan. 1, 2006	Additions	Deletions	Transfers	Balance Dec. 31, 2006
Capital assets not being depreciated:					
Land and land improvements	\$1,541,856	—	—	(261,226)	1,280,630
Non Utility Property, Land	26,055	—	—	261,226	287,281
Construction in progress	11,524,958	30,884,881	(33,264,845)	—	9,144,994
Total capital assets not being depreciated	13,092,869	30,884,881	(33,264,845)	—	10,712,905
Capital assets being depreciated:					
Buildings	22,851,934	172,721	(7,390)	(2,323,681)	20,693,584
Transmission and distribution system	295,103,517	12,428,369	(1,024,578)	—	306,507,308
Machinery and equipment	197,870,747	7,538,045	(4,146,493)	—	201,262,299
Non Utility Property	2,992,624	—	—	2,323,681	5,316,305
Total capital assets being depreciated	518,818,822	20,139,135	(5,178,461)	—	533,779,496
Less: accumulated depreciation:					
Buildings	14,198,507	720,922	(38,141)	(1,335,936)	13,545,352
Transmission and distribution system	70,874,026	3,386,578	(1,105,232)	—	73,155,372
Machinery and equipment	79,870,764	8,412,092	(4,036,660)	—	84,246,196
Non Utility Property	1,446,092	49,116	—	1,335,936	2,831,144
Total accumulated depreciation	166,389,389	12,568,708	(5,180,033)	—	173,778,064
Total capital assets, being depreciated, net	352,429,433	7,570,427	1,572	—	360,001,432
Total capital assets, net	\$365,522,302	38,455,308	(33,263,273)	—	370,714,337

Capital asset activity for the year ended December 31, 2005 was as follows:

	Balance Jan. 1, 2005	Additions	Deletions	Transfers	Balance Dec. 31, 2005
Capital assets not being depreciated:					
Land and land improvements	\$1,567,911	—	—	(26,055)	1,541,856
Non Utility Property, Land	—	—	—	26,055	26,055
Construction in progress	20,250,713	18,321,449	(27,047,204)	—	11,524,958
Total capital assets not being depreciated	21,818,624	18,321,449	(27,047,204)	—	13,092,869
Capital assets being depreciated:					
Buildings	22,986,740	—	—	(134,806)	22,851,934
Transmission and distribution system	275,708,732	22,070,383	(697,488)	(1,978,110)	295,103,517
Machinery and equipment	195,798,480	4,976,821	(2,565,145)	(339,409)	197,870,747
Non Utility Property	540,299	—	—	2,452,325	2,992,624
Total capital assets being depreciated	495,034,251	27,047,204	(3,262,633)	—	518,818,822
Less: accumulated depreciation:					
Buildings	13,597,248	722,401	—	(121,142)	14,198,507
Transmission and distribution system	69,275,343	3,294,879	(726,357)	(969,839)	70,874,026
Machinery and equipment	74,731,499	7,983,154	(2,618,014)	(225,875)	79,870,764
Non Utility Property	127,259	1,977	—	1,316,856	1,446,092
Total accumulated depreciation	157,731,349	12,002,411	(3,344,371)	—	166,389,389
Total capital assets, being depreciated, net	337,302,902	15,044,793	81,738	—	352,429,433
Total capital assets, net	\$359,121,526	33,366,242	(26,965,466)	—	365,522,302

4. Long Term Obligations

A. Changes in Long Term Obligations

Changes in long-term obligations for the year ended December 31, 2006 were as follows:

	Balance Jan. 1, 2006	Additions	Deletions	Balance Dec. 31, 2006	Due Within One Year
General obligation bonds	\$27,949,288	114,756	(4,806,982)	23,257,062	3,362,249
Deferred amount on refundings	(890,686)	—	196,106	(694,580)	—
Unamortized premiums	1,339,343	—	(199,872)	1,139,471	—
Revenue bonds	12,921,019	—	(846,041)	12,074,978	868,376
Total	\$41,318,964	114,756	(5,656,789)	35,776,931	4,230,625

Changes in long-term obligations for the year ended December 31, 2005 were as follows:

	Balance Jan. 1, 2005	Additions	Deletions	Balance Dec. 31, 2005	Due Within One Year
General obligation bonds	\$32,800,701	—	(4,851,413)	27,949,288	4,692,226
Deferred amount on refundings	(1,118,755)	—	228,069	(890,686)	—
Unamortized premiums	1,547,266	—	(207,923)	1,339,343	—
Revenue bonds	13,745,299	—	(824,280)	12,921,019	846,041
Total	\$46,974,511	—	(5,655,547)	41,318,964	5,538,267

B. General Obligation Bonds

The City issues general obligation bonds to provide funds for the acquisition and construction of the water plant and related equipment. General obligation bonds are secured by the full faith and unlimited taxing power of the City. The bonds for the Water Works will be retired by revenues from water services or, if the revenues are not sufficient, by future tax levies. The original amount of general obligation bonds issued in prior years was \$79,119,019. During the year ended December 31, 2006, general obligation bonds totaling \$114,756 were issued and \$114,756 of general obligation bonds were retired. There were no general obligation bonds issued during the year ended December 31, 2005. General obligation bonds outstanding at December 31, 2006 and 2005 respectively, were as follows:

Series	Maturity	Interest Rates	Original Principal	Principal Balance at Dec. 31, 2006	Principal Balance at Dec. 31, 2005
Refunding C&D	2007 to 2015	5.83%	4,851,248	1,821,629	2,654,815
E Refunded	2007 to 2006	5.49%	9,000,000	0	599,800
F	2007 to 2011	4.97%	13,100,000	0	873,472
G	2007 to 2012	4.93%	4,212,000	280,861	561,982
J	2007 to 2012	4.78%	8,718,000	580,455	1,160,910
K	2007 to 2013	4.64%	18,044,000	2,404,680	3,607,020
Refunding E	2007 to 2019	4.49%	3,125,658	2,635,229	2,799,706
Refunding C,D,F,G,J & K	2007 to 2016	5.00% to 5.25%	17,953,357	15,419,452	15,691,583
Refunding 2006 N9, Refd C&D	2011 to 2015	4.25% to 5.00%	114,756	114,756	0
TOTALS			\$79,119,019	23,257,062	27,949,288

C. Revenue Bonds

In December of 1998, Water Works issued a Revenue Bond, in the amount of \$19,358,172, to the State of Wisconsin Safe Drinking Water Loan Program. This bond supports loans to the Water Works for water quality capital projects, or reimbursement for capital expenditures related to water quality, up to the face value of the bond. The Revenue Bond borrowing authority was closed in 2004 and the final loan amount was \$17,559,378. Loan covenants provide for the monthly escrow of revenues to repay the debt plus interest. Regardless of loan proceeds disbursement, the final maturity of the Revenue Bond is May 1, 2018. Revenue bonds outstanding at December 31, 2006 and 2005 respectively, were as follows:

Series	Maturity	Interest Rates	Original Principal	Principal Balance at Dec. 31, 2006	Principal Balance at Dec. 31, 2005
SDW-1	2007 to 2018	2.64%	\$4,873,153	3,351,099	3,585,896
SDW-2	2007 to 2018	2.64%	1,618,213	1,112,789	1,190,757
SDW-3	2007 to 2018	2.64%	5,001,067	3,439,061	3,680,021
SDW-4	2007 to 2018	2.64%	4,148,305	2,852,646	3,052,519
SDW-5	2007 to 2018	2.64%	1,918,640	1,319,383	1,411,826
TOTALS			\$17,559,378	12,074,978	12,921,019

D. Debt Service Requirements

The maturities of the outstanding principal and related interest requirements as of December 31, 2006 are as follows:

Year	GENERAL OBLIGATION BONDS		REVENUE BONDS	
	Principal	Interest	Principal	Interest
2007	3,362,249	1,117,729	868,376	307,317
2008	2,845,339	958,677	891,301	284,089
2009	1,989,325	850,311	914,832	260,248
2010	2,491,847	753,165	938,984	235,778
2011	2,965,418	634,404	963,773	210,661
2012-2016	9,536,252	1,298,527	5,214,220	652,731
2017-2021	66,632	5,118	2,283,492	60,677
TOTALS	\$23,257,062	5,617,931	12,074,978	2,011,501

E. Advance Refundings

In prior years, the Water Works defeased certain general obligation and revenue bonds by placing the proceeds of new bonds in an irrevocable trust to provide for all future debt service payments on the old bonds. Accordingly, the trust account assets and the liability for the defeased bonds are not included in the Water Work's financial statements. At December 31, 2006, \$10,316,038 of bonds were considered to be defeased.

5. Revenue Bond Debt Covenants

Fiscal Year	Gross Revenues	Debt Coverage Expenses	Net Revenue Available for Debt Service	DEBT SERVICE REQUIREMENTS			Coverage
				Principal	Interest	Total	
2005	72,660,164	51,951,932	20,708,232	846,041	329,947	1,175,988	17.61
2006	71,149,697	51,365,317	19,784,380	868,376	307,317	1,175,693	16.83

Gross Revenues is defined as total revenues plus interest income. Debt Coverage Expenses is defined as total operating expenses including Pilot, minus depreciation.

The revenue bonds debt service coverage ratio requirement is the greater of 1.1 or the highest debt service coverage ratio with respect to any other debt obligations payable from the revenues of the water system.

At December 31, 2006 and 2005, there were no other debt obligations payable from the revenues of the water system.

6. Retirement Plan and Other Post-Employment Benefits

Pension Benefits

Plan Description—The City makes contributions to the Employees' Retirement System of the City of Milwaukee (the "System"), a cost-sharing multiple-employer defined benefit pension plan, on behalf of all eligible City employees. The System provides retirement, disability, and death benefits to plan members and beneficiaries. The City Charter assigns the authority to establish and amend benefit provisions. The System issues a publicly available financial report that includes financial statements and required supplementary information for the System. That report may be obtained by writing to the Employees' Retirement System of the City of Milwaukee, 200 East Wells Street, Room 603, Milwaukee, WI 53202.

Funding Policy—Plan members are required to contribute, or have contributed on their behalf, a percentage of their annual earnable compensation equal to 5.5%, 6%, 7% and 7% for general City employees, police officers, firefighters, and elected officials, respectively. The City is required to contribute the actuarially determined amount. The City Charter assigns the authority to establish and amend contribution requirements. The Water Work's contribution to the System for the years ending December 31, 2006, 2005 and 2004 were \$976,658, \$1,090,298, and \$985,608, respectively and is equal to the required contributions on behalf of the plan members for the year.

Other Post-Employment Benefits

The City provides post-employment medical and life insurance coverage for substantially all retirees. Such benefits are recorded when paid. These costs are recorded in the City of Milwaukee General Fund. The Water Works' portion of these costs cannot be reasonably estimated for the years ended December 31, 2006 and 2005.

7. Related Party Transactions

A summary of significant revenue and expense transactions between the City and Water Works for 2006 and 2005 are shown below:

		2006	2005
Revenues (receipts from the City):	Water Consumption	\$339,833	316,390
Expenses (payments to the City):	Payment-in-lieu-of-taxes	\$7,460,814	7,667,741
	Employee Fringe Benefits	6,458,949	6,309,198
	Administrative Services	904,442	766,413
	Electrical Equipment Maintenance	476,929	599,949
	Motor Vehicle Usage and Maintenance	745,764	720,293
	Street Repairs	2,257,253	3,192,675
	All Other Services	3,979,690	2,869,422
	Total Payments to City	\$22,283,841	22,125,691

The Water Works also acts as a billing and collection agent for sewer and other municipal charges and is reimbursed for costs incurred in providing such billing services.

The City purchases the delinquent water and sewer accounts receivables of the Water Works at the unpaid amounts. Any subsequent uncollectible accounts are absorbed by the City.

The Water Works has an annual maximum contingent liability of \$200,000 for general liability claims. Claims in excess of this amount, if any, are the liability of the City.

8. Regulatory Agency

Certain PSC reporting requirements give rise to differences between revenues and expenses that are included in the PSC reports and these financial statements. The more significant of these differences are as follows: (1) the amount of payment-in-lieu-of-taxes allowed for PSC purposes exceeds the amount of taxes actually paid; and (2) operating transfers to the City of Milwaukee are reflected as miscellaneous adjustments to Retained Earnings for PSC purposes, rather than being included in the computation of Net Income.

The effect of such differences on net income are as follows for the years ended December 31, 2006 and 2005:

	(Thousands of Dollars)	
	2006	2005
Increase in Net Assets as shown in accompanying financial statements	\$9,019	8,997
Reimbursement in Excess of Expenses		1,090
Interest expense timing difference	3	
Amortization of deferred credits resulting from Contributions In Aid of Construction (CIAC) reclassification	811	811
Net Income as Shown on PSC Reports	\$9,833	10,898

9. Commitments and Contingencies

The Water Works is generally committed under the terms of various contracts for construction of improvements and additions to the Water Works system. Contract terms provide for partial payments as construction progresses with specified retention to assure full contract compliance. Open commitments on such contracts, as of December 31, 2006, totaled \$6,712,003.

10. Transfers and Inter-Fund Balances

At December 31, 2006 and 2005, the Water Works has recorded a due from other funds of \$4,920,698 and \$6,559,201, respectively, which in part represents cash held by the general obligation debt fund of the City on behalf of Water Works for the 2007 and 2006 respective principal and interest payments on its general obligation bonds. The remaining balance represents the amount owed to the Water Works as a result of regular advance and reimbursement activities. At December 31, 2006 and 2005, the Water Works has recorded a due to the City (General and Sewer Funds) of \$8,021,167 and \$4,169,164, respectively, for sewer maintenance and other municipal fees collected by the Water Works.

The Water Works transfers funds to the City (general fund) for payments in lieu of taxes (PILOT). In 2006 and 2005, the PILOT transfers to the City were \$7,460,814 and \$7,667,741, respectively.

Milwaukee Water Quality

The Milwaukee Water Works provides the following data which indicate the high quality drinking water it provides 24 hours a day. The information is available in the Milwaukee Water Works Safe Drinking Water Report (also known as Consumer Confidence Report), published each spring as required by the U.S. Environmental Protection Agency (EPA).

The report is available on the Milwaukee Water Works website, **www.water.mpw.net**. At the home page, choose the Water Quality link.

Comparison of Selected Parameters

Milwaukee Water Works water provides a superior platform for industrial and commercial uses. Milwaukee water is extremely high quality ozone-disinfected water provided with reliable pressure, relatively consistent temperature, and containing low levels of dissolved solids.

For non-commercial water use, Milwaukee tap water is an excellent base for use in home brewing, aquariums, home photography, etc.

Typical Finished Water Values

Parameter	Average Value	Range
Alkalinity	100 mg/L (as CaCO ₃)	90 – 110
Calcium	35 mg/L	27 – 37
Chlorine Residual	0.95 mg/L	0.3 – 1.3
Conductivity	305 uS/cm	280 – 350
Fluoride	0.85 mg/L	0.3 – 1.3
Hardness	7.5 grains per gallon	7 – 9
Hardness	127 mg/L (as CaCO ₃)	117 – 146
Iron	0.02 mg/L	0.002 – 0.32 ppm
Nitrate, as N	0.3 mg/L	0.2 – 0.7
pH	7.45	7.2 – 7.9
Potassium	1.2 mg/L	0.8 – 1.4
Sodium	7.6 mg/L	6 – 12
Temperature	58°F	32° – 70°F
Total Dissolved Solids	177 mg/L	125 – 195

Definitions

< = “is less than”

mg/L = milligrams per liter or ppm = parts per million

gpg = grains per gallon

NTU = Nephelometric Turbidity Units

uS/cm = microsiemens per centimeter

2006 Undetected Chemical Contaminant List

The Milwaukee Water Works drinking water met EPA regulations 100% of the time in 2006. Quality continues to exceed the requirements of state and federal regulations, without exception.

The Milwaukee Water Works has expanded its water quality monitoring and screening activities to include organisms and contaminants that are not yet regulated but considered of “emerging concern.” There are no requirements to test for these contaminants nor are there regulations governing detectable levels of the contaminants in drinking water. However, the Milwaukee Water Works tests for these emerging concerns to gain information and to ensure Milwaukee drinking water is of the highest possible quality.

The water works tests for these compounds in source water and finished water. None of them were detected in Milwaukee drinking water. The primary disinfectant used in the Milwaukee Water Works treatment process, ozone, is a powerful oxidant that has been shown to destroy many of these compounds.

Some of these emerging concerns include endocrine disrupting compounds and pharmaceutical personal care products (PPCPs). More information about PPCPs is available at <http://water.mpw.net/3faqsquality.htm>

The following is a list of chemical contaminants, regulated and non-regulated, that were tested for in drinking water produced by the Milwaukee Water Works treatment plants. None of them were detected in Milwaukee's drinking water.

INORGANIC CHEMICALS — Antimony, Arsenic, Beryllium, Cadmium, Cerium, Cesium, Cobalt, Cyanide, Dysprosium, Erbium, Europium, Gadolinium, Gallium, Germanium, Hafnium, Holmium, Iridium, Lanthanum, Lutetium, Molybdenum, Neodymium, Nickel, Niobium, Osmium, Platinum, Praseodymium, Protactinium, Rhenium, Rhodium, Ruthenium, Samarium, Selenium, Tantalum, Tellurium, Thallium, Thorium, Thulium, Tin, Titanium, Tungsten, Uranium, Ytterbium, Zinc and Zirconium.

SYNTHETIC ORGANIC CHEMICALS — Acenaphthene; Acenaphthylene; Acetochlor; Alachlor (Lasso); Aldicarb; Aldicarb sulfone; Aldicarb sulfoxide; Aldrin; Ametryn; Anilazine; Anthracene; Aspon; Atraton; Atrazine; Azinphos-ethyl; Azinphos-methyl; Bendiocarb; Benfluralin; Benzo(a)anthracene; Benzo(b)fluoranthene; Benzo(k)fluoranthene; Benzo(a)pyrene; Benzo(g, h, i)perylene; alpha-Benzenehexachloride; beta-Benzenehexachloride; delta-Benzenehexachloride; gamma-Benzenehexachloride (Lindane); Bolstar; Bromacil; Burachlor; Butylate; Butylbenzylphthalate; Carbaryl; Carbofuran; Carbophenothion; Carboxin; Chlordane alpha, Chlordane gamma, Chlordane, Chlorfenvinphos; Chlorobenzilate; 2-Chlorobiphenyl; Chlorobenz; Chloropropylate; Chlorothalonil; Chlorpropham; Chlorpyrifos; Chlorpyrifos methyl; Chrysene; Clomazone; Clopyralid; Coumaphos; Crotoxyphos; Cyanazine; Cycloate; 2,4-D; Dalapon; DCPA; 4,4'-DDD; 4,4'-DDE; 4,4'-DDT; Deethylatrazine; Deisopropylatrazine; Demeton O; Demeton S; Desethylatrazine; Desisopropylatrazine; Diazinon; Dibenzo(a,h)anthracene; 1,2-Dibromo-3-chloropropane (DBCP); Di-n-butylphthalate; Dicamba; Dichlobenil; Dichlofenthion; Dichloran; 2,3-Dichlorobiphenyl; Dichlorvos; Dicrotophos; Dieldrin; Di (2-ethylhexyl) adipate; Di (2-ethylhexyl) phthalate; Diethylphthalate; Dimehoate; Dimethylphthalate; 2,4-Dinitrotoluene; 2,6-Dinitrotoluene; Dinoseb; Di-n-octylphthalate; Dioxathion; Diphenamid; Diquat; Disulfoton; Disulfoton sulfone; Disulfoton sulfoxide; Endosulfan I; Endosulfan II; Endosulfan sulfate; Endothall; Endrin; Endrin aldehyde; EPN; EPTC; Erucylamide; Esfenvalerate; Ethalfuralin; Ethion; Ethofumesate; Ethoprop; Ethylene dibromide (EDB); Etridiazole; Fampihur; Fenamiphos; Fenarimol; Fenitrothion; Fenoxyp-ethyl; Fensulfthion; Fenthion; Fluzafop-butyl; Fluchloralrin; Fluometuron; Fluoranthene; Fluorene; Fluridone; Fonofos; Glyphosate (Round-up); Heptachlor; Heptachlor epoxide; 2,2',3,3',4,4',6-Heptachlorobiphenyl; Hexachlorobenzene; 2,2',4,4',5,6'-Hexachlorobiphenyl; Hexachlorocyclopentadiene; Hexazinone, 3-Hydroxycarbofuran; Indeno(1,2,3-cd)pyrene; Iprodione; Isafenophos; Isophorone; Leptophos; Lindane; Malathion; Merphos; Metalaxyl; Methoxychlor; Methomyl; 1-Methyl naphthalene; 2-Methyl naphthalene; Methyl paraoxon; Methyl parathion; Dual (Metolachlor); Metribuzin (Sencor); Metsulfuron methyl; Mevinphos; MGK-264 isomer a; MGK-264 isomer b; MGK-326; Mirex; Molinate; Monocrotophos; Naled; Naphthalene; Napropamide; trans-Nonachlor; Norflurazon; 2,2',3,3',4,5',6,6'-Octachlorobiphenyl; Oryzalin; Oxadiazon; Oxamyl (Vydate); Oxyfluorfen; Parathion; Pebulate; Pendimethalin; Pentachlorobenzene; Pentachloronitrobenzene; 2,2',3,4,6-Pentachlorobiphenyl; Pentachlorophenol; cis-Permethrin; trans-Permethrin; Phenanthrene; Phorate; Phosmet; E-Phosphamidon; Z-Phosphamidon; Picloram (Tordon); Polychlorinated Biphenols (total); Profluralin; Prometon; Prometryn; Pronamide; Propachlor; Propanil; Propazine; Propiconazole isomer a; Propiconazole isomer b; Prothiofos; Pyrene; 2,4,5-TP(Silvex); Simazine; Simetryn; Stirofos; Sulfotep; 2,3,7,8-TCDD (Dioxin); Tebutiuron; TEPP; Terbacil; Terbufos; Terbutryn; 1,2,4,5-Tetrachlorobenzene; 2,2',4,4'-Tetrachlorobiphenyl; Thiabendazole; Thiobencarb; Thionazin; Toxaphene; Triadimefon; Tribufos (DEF); 2,4,5-Trichlorobiphenyl; Trichloronate; Tricyclazole; Trifluralin; Vernolate; Vinclozolin.

— Continued —

VOLATILE ORGANIC CHEMICALS — Acetaldehyde; Acetone; Acrylonitrile; Allyl chloride; tert-Amyl methyl ether; Benzaldehyde; Benzene; Bromobenzene; Bromochloromethane; Bromomethane; 2-Butanone (MEK); n-Butylacrylate; tert-Butyl alcohol; n-Butylbenzene; sec-Butylbenzen; tert-Butylbenzene; Butyraldehyde; Carbon disulfide; Carbon tetrachloride; Chloroacetone; Chlorobenzene; 1-Chlorobutane; Chloroethane; Chloromethane; Chloroprene; 2-Chlorotoluene (o-); 4-Chlorotoluene (p-); Crotonaldehyde; Cyclohexanone; Dibromomethane; 1,2-Dibromo-3-Chloropropane(DBCP); Decanal; Dibromoacetic acid; 1,3-Dichlorobenzene; 1,2-Dichlorobenzene; 1,4-Dichlorobenzene; trans-1,4-Dichloro-2-butylene; Dichlorodifluoromethane; 1,1-Dichloroethane; 1,2-Dichloroethane; 1,1-Dichloroethylene; cis-1,2-Dichloroethylene; trans-1,2-Dichloroethylene; Dichloromethane; 1,2-Dichloropropane; 1,3-Dichloropropane; 2,2-Dichloropropane, 1,1-Dichloropropane; 1,1-Dichloropropylene; cis-1,3-Dichloropropylene; trans-1,3-Dichloropropylene; 1,4-Dioxane; Epichlorohydrin; Ethyl acrylate; Ethylbenzene; Ethyl ether; Ethyl methacrylate; Ethyl tert-butyl ether; Glyoxal, Heptanal; Hexachlorobutadiene; Hexachloroethane; Hexanal; 2-Hexanone; Isopropylbenzene; 4-Isopropyltoluene (p-); Methacrylonitrile; Methylacrylate; Methyl iodide (Iodomethane); Methylmethacrylate; 4-Methyl-2-pentanone (MIBK); Methyl-t-butyl ether (MBTE); Monobromoacetic acid; Monochloroacetic acid; Naphthalene; Nitrobenzene; 2-Nitropropane; Nonanal; Octanal; Pentachloroethane; Propionaldehyde (Propanal); Propionitrile; n-Propylbenzene; Pyruvaldehyde (Methylglyoxal) Styrene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethane; Tetrachloroethylene; Tetrahydrofuran; Toluene; Tribromoacetic acid; Trichloroacetic acid; Trichloroacetone; 1,2,3-Trichlorobenzene; 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; Trichlorofluoromethane; 1,2,3-Trichloropropane; 1,1,2-Trichloro-1,2,2-trifluoroethane; 1,2,3-Trimethylbenzene; 1,2,4-Trimethylbenzene; 1,3,5-Trimethylbenzene; n-Valeraldehyde (Pentanal); Vinyl acetate; Vinyl chloride; Xylene, total.

ESTROGENS AND OTHER HORMONES — Diethylstilbestrol (DES); Estone; 17alpha-Estradiol; 17beta-Estradiol; Estriol; 17alpha-Ethinyl estradiol; Progesterone; cis-Testosterone; trans-Testosterone.

PHENOLIC ENDOCRINE DISRUPTORS — Bisphenol A; Nonylphenol diethoxylate, isomer mix; Nonylphenol monoethoxylate, isomer mix; Nonylphenol, isomer mix; 4-n-Octylphenol; 4-tert-Octylphenol; Pentachlorophenol; Phenylphenol; Tetrabromobisphenol A; 2,4,6-Trichlorophenol.

NITROSAMINES — N-Nitropyrridine; N-Nitrosodi-N-butylamine; N-Nitrosodiethylamine; N-Nitrosodimethylamine; N-Nitrosodi-N-propylamine; N-Nitrosomethylethylamine; N-Nitrosopiperidine.

PHARMACEUTICALS & PERSONAL CARE PRODUCTS — Acetaminophen; Caffeine; Carbamazepine; 1,7-Dimethylxanthine; DEET; Ibuprofen; Lincomycin; Sulfadimethoxine; Sulfamethazine; Sulfamethoxazole; Triclosan; Trimethoprim; Tylosin.

Detected Contaminants

The EPA requires water utilities to test for 90 regulated contaminants on a regular basis. The Milwaukee Water Works also voluntarily tests for over 500 unregulated contaminants to assure the highest quality water. Most of the contaminants are not detected.

Unregulated contaminants are those that do not yet have a drinking water standard set by the EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. More information can be obtained from the EPA at <http://www.epa.gov/safewater/ccr>

The table below shows the substances that were detected in water quality testing in 2006. Every substance that is detected, even in the most minute trace, is listed here. All are below levels allowed by state and federal laws.

The table contains the name of each substance, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the usual sources of such contamination, and footnotes explaining the findings and units of measurement.

Please note the simple presence of a substance in drinking water does not necessarily indicate the water poses a health risk. Certain quantities of some substances are essential to good health, but excessive quantities can be hazardous.

Substance	Ideal Goals (MCLG)	Highest Level Allowed (MCL)	Median Value	Highest Level Detected	Source(s) of Contaminant
Aluminum	0.2 mg/L	NR	0.035 mg/L	0.07 mg/L	2,3
Bromate	10 µ/L	10 µ/L (RAA)	4 µ/L (RAA)	NR	4
Barium	2 mg/L	2 mg/L	0.02 mg/L	0.02 mg/L	3
Chromium	100 µ/L	100 µ/L	5 µ/L	10 µ/L	3
Chlorine, total		4 mg/L	1.34 mg/L	1.73 mg/L	5
Copper	1.3 mg/L	1.3 mg/L (AL)	0.025 mg/L (AL)	NR	6
Fluoride		4 mg/L	0.61 mg/L	1.7 mg/L	2,3
Haloacetic Acids, total	0 µ/L	60 µ/L	2.4 µ/L	6.5 µ/L	4
Lead	0 µ/L	15 µ/L (AL)	14 µ/L (AL)	NR	6
Potassium	NR	NR	1.1 mg/L	1.5 mg/L	3
Radium, combined ¹	0 pCi/L	5 pCi/L	0.7 pCi/L	0.7 pCi/L	3
Sulfate	500 mg/L	NR	30 mg/L	33 mg/L	3
Sodium	NR	NR	7.3 mg/L	12.5 mg/L	3
Trihalomethanes, total	0 µ/L	80 µ/L	7 µ/L	14.4 µ/L	4
Turbidity		<0.3 NTU 95% of the time	0.05 NTU 95% of the time	0.14 NTU one-day maximum	3
Total Organic Carbon	TT	TT	1.4 mg/L	2.2 mg/L	3
Total Coliform Bacteria	0	<5% of samples/month	<1%	<1%	7
Uranium, total ¹		20 pCi/L	0.54 pCi/L	0.57 pCi/L	3

Definitions and Notes

< “less than” or not detected

AL Action Level – The concentration of a contaminant that, if exceeded, triggers treatment or other requirement that a water system must follow. Action Levels are reported at the 90th percentile for homes at greatest risk.

MCL Maximum Contaminant Level – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available technology.

MCLG Maximum Contaminant Level Goal – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

mg/L milligrams per liter or parts per million

µg/L micrograms per liter or parts per billion

Median The middle value of the entire data set for the parameter (range from high to low)

NTU Nephelometric Turbidity Units – unit to measure turbidity

NR Not regulated

pCi/L Picocuries per liter, a measure of radioactivity. A picocurie is 10-12 curies.

RAA Running Annual Average – The average of (4) quarterly samples collected in one year

TT Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water

¹ Results are from samples collected in 2003

² Water treatment additive

³ Natural deposits

⁴ Byproduct of drinking water disinfection

⁵ Residual of drinking water disinfection

⁶ Corrosion of household plumbing systems

⁷ Naturally present in the environment

General Information about the Milwaukee Water Works 2006

Howard Avenue treatment plant

rated capacity 105 million gallons per day (MGD)

Linnwood treatment plant rated capacity 275 MGD

Average daily pumpage 2006. 115 MGD

Total gallons sold 2006. 35.4 billion gallons

Total length of all water mains in service 1,964 miles

of meters in service 161,618

of fire hydrants in service 19,780

Population served. 862,393

Area served 195 square miles

Sale of Water in billion gallons by customer class

Residential	12.2 billion
Commercial	8.3
Industrial	4.6
Public authority	2.4
Subtotal	27.5
Wholesale	7.9
Total	35.4 billion

Average daily use per person 52 gallons

Cost of drinking water: four gallons for one cent or 100 cubic feet
(748 gallons) for \$1.22

MWW payment to city for taxes and services used: \$7,460,814

Retail customers: (water, billing service, maintenance) Franklin, Greenfield,
Hales Corners, St. Francis, West Milwaukee (provides its own maintenance)

Wholesale customers: (water only): Brown Deer, Butler, Greendale,
Menomonee Falls, We Energies Water Services for part of Mequon and
Thiensville, Milwaukee County Grounds facilities, New Berlin, Shorewood,
Wauwatosa, West Allis.

The Water Works treats Lake Michigan water with a multiple-step process to protect public health. Ozone gas, one of the most powerful disinfectants available, destroys microorganisms, reduces chlorinated disinfection byproducts, and removes taste and odor. Coagulation, settling, and filtration remove additional particles. Fluoride is added for dental health. The water is fresh and pure every day.

The Milwaukee Water Works observed its 135th anniversary in 2006. Mayor Tom Barrett and members of the Common Council called for community stewardship for maintaining water infrastructure for future generations. For its anniversary activities and a public education campaign on the value of a safe, reliable drinking water supply, the water works received a Utility Special Achievement Award from the Wisconsin Water Association.

Milwaukee Water Works Observes 135th Anniversary

Milwaukee was a dry town in 1870. There was water and there was beer, but there was no municipal water or sewer. A collection of wells, streams, and vendors pulling “water wagons” supplied drinking water. Those sources were badly polluted. And, with limited water for fire protection, any fire had the potential to wipe out the city. Milwaukee was in dire need of a public water supply.

After years of debate over how to plumb the city, the Milwaukee Water Works (MWW) was founded April 18, 1871 when a Board of Water Commissioners convened to build a water works. From a historical perspective, Wisconsin had become a state just 23 years earlier, and it was the following October 1871 when great fires destroyed Chicago and Peshtigo.

The Milwaukee Common Council selected E. F. Chesbrough, whose previous experience was in Chicago, to design a system. The initial plan was to tap into local rivers, using gravity to deliver the water. But Chesbrough chose Lake Michigan as the source for its obvious abundance

of water. The first water works incorporated an intake pipe, a station on the shore housing two steam pumping engines of eight million gallons per day capacity each; a standpipe to absorb steam pump pulsations (North Point Tower), the Kilbourn reservoir (named for the city’s founding father), and 58 miles of water mains. The cost was \$1.9 million.

The Water Works set up shop in City Hall, where operations were head-



The first Milwaukee Water Works pumping station and the North Point Tower were placed in service in September 1874. The steam-powered station was located on the Lake Michigan shore two-and-a-half miles north of the Milwaukee River harbor. The decorative stonework of the tower housed a tall standpipe, open at the top, that absorbed pulsations of water from the reciprocating steam-driven engines in the station below. The station and the tower served for 50 years as the sole source of lake water into the distribution system.



Milwaukee Water Works meter and distribution crews pose outside their City Hall offices in 1903.



By 1910, Milwaukee was one of the nation's first cities to have installed meters for all of its customers, a public works distinction of the time. This photo shows the meter repair shop in 1936.

Treatment Plant, built entirely on landfill under the bluffs of Lake Park. The Howard Avenue Plant was built in 1961 to meet the needs of a rapidly expanding south side.

In the mid 1990s, the Water Works undertook a complete overhaul and optimization of each step in the water treatment process (primary disinfection, coagulation, sedimentation, filtration, secondary disinfection) at both plants to provide multiple barriers to potential contaminants. By 1998, Milwaukee was a national leader in the use of ozone disinfection, which destroys illness-causing microbes, controls taste and odor, and reduced chlorinated disinfection byproducts.

Today, the Milwaukee Water operates two treatment plants and maintains 1,960 miles of mains. The utility serves 830,000 people in Milwaukee and 15 neighboring communities.

quartered until they moved into the new Municipal Building in 1959. The state Legislature authorized water metering in 1885, and by 1910, Milwaukee was one of the nation's first cities to be 100% metered, a public works distinction of the time.

The first disinfection of lake water for drinking came in 1910, when lime was dumped into a mixing basin near the lake intake. In 1915, chlorine was in use as a disinfectant, and four years later, the Water Works added filtration to the treatment process. After years of debate, the Common Council in 1934 authorized construction of the Linnwood



A 1938 construction progress photograph of the Linnwood Treatment Plant, which was built on landfill deposited into the lake below the original North Point Pumping Station on North Lincoln Memorial Drive.



"Love Rock," the protective covering over the north water intake, was a popular point of reference for boaters until its demolition in 1986 when it was no longer used.

In 2006, the Water Works delivered 35.4 billion gallons of high quality drinking water. The utility, with 300 employees, is a division of the Department of Public Works. The Milwaukee Water Works is a self-financing business enterprise. It collects funds to finance its operations and returns millions of dollars to the city as a payment in lieu of taxes, offsetting the city tax levy and reducing the tax rate. The utility provides payments of millions of dollars to the city for municipal services it uses.

The Association of Metropolitan Water Agencies, representing the 125 largest water utilities in the U.S., conferred its 2003 Gold Award for Competitiveness Achievement to the Milwaukee Water Works.



High quality, ozone disinfected water is available fresh and pure every day at the tap in Milwaukee. Many people drink bottled water — we all appreciate the convenience of a bottle. But we suggest you refill the bottle at the tap and enjoy.

Tap water is a great value — four gallons cost one cent.

Drinking locally is a sustainable thing to do, too. We've already paid to purify the water.

Fill at the Tap and Enjoy!

Our Favorite Reasons to fill up on Milwaukee Drinking Water

- Water quality rated "A" by U.S. EPA and *Men's Health* magazine
- Free refills at all participating faucets
- No carbs: Go ahead and supersize it
- Refill vs. Landfill
- Undergoes more testing than professional athletes
- Home delivery 24/7
- The clear choice of firefighters
- Doctors agree: Your body needs the irrigation
- So priceless, athletes refuse to dump it on their coaches



Milwaukee Water Works

Safe, Abundant Drinking Water.

841 N. Broadway, Room 409, Milwaukee, WI 53202
Customer Service · Monday-Friday, 7:30 a.m. to 5:00 p.m.

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Learn more about Milwaukee water:
www.water.mpw.net